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EXPLANATORY TEXT

TO THE

ATLAS OF HUMAN ANATOMY,

—BY—

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CINCINNATI, O.

A. E. WILDE & CO., Publishers.

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OSTEOLOGY.



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EXPLANATION OF PLATES.

OSTEOLOGY.

PLATES I, II, III.

PLATE I, MALE SKELETON—ANTERIOR VIEW.

“ II, MALE SKELETON—POSTERIOR VIEW.

“ III, FEMALE SKELETON—ANTERIOR VIEW.

- | | | |
|----------------------------------|-----------------------------|---------------------------|
| A. Cranium. | 28. Scapula. | |
| B. Vertebral Column. | 29. Humerus. | |
| C. Thorax. | 30. Ulna. | |
| D. Upper Extremity. | 31. Radius. | |
| E. Lower Extremity. | 32. Scaphoid | } Bones of the
Carpus. |
| 1. Sphenoid. | 33. Semi-lunar | |
| 2. Occipital. | 34. Cuneiform | |
| 3. Temporal. | 35. Pisiform | |
| 4. Parietal. | 36. Trapezium. | |
| 5. Frontal. | 37. Trapezoid | |
| 6. Ethmoid. | 38. Os Magnum | |
| 7. Lachrymal. | 39. Unciform | |
| 8. Inferior Turbinated. | 40. Metacarpal Bones. | |
| 9. Superior Maxillary. | 41. First Row of Phalanges. | |
| 10. Palate. | 42. Second “ “ “ | |
| 11. Malar. | 43. Third “ “ “ | |
| 12. Nasal. | 44. Sesamoid Bones. | |
| 13. Inferior Maxillary. | 45. Ilium | } Bones of Pelvis. |
| 14. Atlas. | 46. Pubis | |
| 15. Axis. | 47. Ischium | |
| 16. Cervical Vertebrae. | 48. Femur. | |
| 17. Dorsal Vertebrae. | 49. Patella. | |
| 18. Lumbar Vertebrae. | 50. Tibia. | |
| 19. Sacrum. | 51. Fibula. | |
| 20. Coccyx. | 52. Os Calcis | } Bones of the
Tarsus. |
| 21. Seven Superior or True Ribs. | 53. Astragalus | |
| 22. Five Inferior or False Ribs. | 54. Scaphoid | |
| 23. Costal Cartilages. | 55. Internal Cuneiform | |
| 24. Manubrium | 56. Middle “ | |
| 25. Gladiolus | 57. External “ | |
| 26. Xiphoid Cartilage | 58. Cuboid | |
| 27. Clavicle. | 59. Metatarsal Bones. | |

- | | |
|----------------------------------|-------------------------------------|
| 60. First Row of Phalanges. | z. Internal Condyle of the Humerus. |
| 61. Second " " " | a. Olecranon Process |
| 62. Third " " " | β . Coronoid Process |
| 63. Sesamoid Bones. | γ . Head |
| a. Mastoid Process. | δ . Styloid Process |
| b. Zygoma. | ϵ . Head |
| c. Superciliary Ridge. | ζ . Tuberosity |
| d. Zygomatic Process of Frontal. | η . Styloid Process |
| e. Frontal Process of Sphenoid. | θ . Crest of the Ilium. |
| f. Inferior Nasal Spine. | i. Anterior Superior Spi- |
| g. Angle | nous Process |
| h. Coronoid Process | x. Anterior Inferior Spi- |
| i. Condylod Process | nous Process |
| k. Chin. | λ . Posterior Superior Spi- |
| l. Body. | nous Process |
| m. Transverse Processes | μ . Spine of the Ischium. |
| n. Articular Processes | ν . Acetabulum. |
| o. Spinous Process | o. Symphysis Pubis. |
| p. Anterior Sacral Foramina. | π . Obturator Foramen. |
| q. Posterior Sacral Foramina. | ρ . Tuberosity of the Ischium. |
| r. Spine | σ . Head |
| s. Acromion Process | τ . Trochanter Major |
| t. Coracoid Process | χ . Trochanter Minor |
| u. Head | υ . External Condyle |
| v. Head | φ . Internal Condyle |
| w. Greater Tuberosity | ξ . Tuberosities of the Tibia. |
| x. Lesser Tuberosity | ψ . External Malleolus. |
| y. External Condyle | ω . Internal Malleolus. |

PLATE IV.

THE SKELETON OF AN INFANT.

The nomenclature of this figure is the same as that of the foregoing, excepting:—

F. Anterior Fontanelle.

24. Center of Ossification of Manubrium.

25. Centers of Ossification of Gladiolus.

26. Cartilaginous Ensiform Appendix.

32. Unossified Carpus.

52. Unossified Tarsus.

The Os Frontis (Fig. 5) consists

of two lateral halves.

The Superior and Inferior Maxillaries (Figs. 9 and 13) lack the alveoli.

The bodies of the Vertebrae (*B*) are all of a size, the Spine being about as large in the Cervical as in the Lumbar region.

The Transverse Processes (*m*) are hardly developed. The Spinous Processes are absent altogether, and the whole Vertebral column consists of two lateral halves (*o*).

PLATE V.

FIGS. I TO VIII. DEVELOPMENT OF THE FŒTAL SKULL.

- | | |
|---|-----------------------------------|
| Fig. I. At the beginning of Second month. | iv. Parietal Bone. |
| Fig. II. End of same. | v. Frontal Bone |
| Fig. III. First half of Third month. | a. Frontal Portion. |
| Fig. IV. Second half of same. | b. Orbital Portion. |
| Fig. v. At end of Fourth. | c. Nasal Portion. |
| Fig. VI. At end of Fifth. | vi. Ethmoid Bone. |
| Fig. VII. At end of Seventh. | vii. Lachrymal Bone. |
| Fig. VIII. At end of Ninth month. | viii. Superior Maxillary Bone. |
| i. Sphenoid Bone. | ix. Malar Bone. |
| ii. Occipital Bone. | x. Palate Bone. |
| a. Occipital Portion. | xi. Nasal Bone. |
| b. Condylod Portion. | xii. Inferior Maxillary Bone. |
| c. Basilar Portion. | A. Anterior Fontanelle. |
| iii. Temporal Bone. | B. Posterior Fontanelle. |
| a. Squamous Portion. | C. Posterior Temporal Fontanelle. |
| b. Mastoid Portion. | D. Anterior Temporal Fontanelle. |
| | 20. Tympanic Bone. |

AD. FIG. VIII.

- | | |
|--|--|
| 9. External Occipital Protuberance. | 32. Superciliary Ridge. |
| 10. External Occipital Spine. | 36. Malar or External Angular Process. |
| 12. Zygomatic Process of Temporal. | 63. Frontal Process of Malar. |
| 23. Anterior Superior Angle of Parietal. | 69. Body of Inferior Maxillary. |
| 24. Posterior Superior Angle of same. | 70. Ramus of Lower Jaw. |
| 25. Posterior Inferior Angle of same. | 75. Sigmoid Notch. |
| 26. Anterior Inferior Angle of same. | 76. Condylod Process. |
| | 77. Neck of same. |
| | 78. Coronoid Process. |
| | 79. Angle of Lower Jaw. |

FIG. IX. ADULT SKULL—SIDE VIEW.

- | | | |
|--------------------------|--|-------|
| 1. Parietal Bone. | 12. Chin. | [Jaw. |
| 2. Frontal. | 13. Lower Border of Body of the | |
| 3. Occipital. | 14. Angle of Lower Jaw | |
| 4. Lambdoid Suture. | 15. Posterior Border of Ramus. | |
| 5. Coronal Suture. | 16. Supraorbital Foramen. | |
| 6. Nasal Eminence. | 17. Temporal Ridge. | |
| 7. Nasal Bones. | 18. Squamous Portion of Temporal. | |
| 8. Anterior Nares. | 19. Squamous Suture. | |
| 9. Anterior Nasal Spine. | 20. Anterior Inferior Angle of Parietal. | |
| 10. Upper Teeth. | 21. Zygomatic Surface of Sphenoid. | |
| 11. Lower Teeth. | | |

- | | |
|--|------------------------------------|
| 22. External Angular Process of Frontal. | 28. Zygomatic Process of Temporal. |
| 23. Malar Bone | 29. Sigmoid Notch. |
| 24. Lachrymal Bone. | 30. Condyle of Lower Jaw. |
| 25. Orbital Surface of Sphenoid. | 31. Coronoid Process of Lower Jaw. |
| 26. Orbital Surface of Upper Maxillary. | 32. Styloid Process of Temporal. |
| 27. Infraorbital Foramen. | 33. Mastoid Process. |
| | 34. Occipital Groove. |
| | 35. Masto-occipital Suture. |

PLATE VI.

FIGS. I TO XX. MICROSCOPIC STRUCTURE OF THE BONE.

- | | |
|---|--------------------------------------|
| { | FIG I. LONGITUDINAL SECTION OF ULNA. |
| | FIG. II. TRANSVERSE SECTION OF SAME. |

- | | |
|------------------------|---------------------|
| a. Cartilaginous Base. | d. Canaliculi. |
| b. Haversian Canals. | e. Bone Corpuscles. |
| c. Their Lamellæ. | |

FIG. III. TRANSVERSE SECTION OF COSTAL CARTILAGE.

- | | |
|-----------------------------|-----------------------------|
| a. Intercellular Substance. | c. Cells containing Nuclei. |
| b. Cartilage Cells. | |

FIG. IV. SECTION OF CARTILAGE OF EAR.

- | | |
|---------------------|-------------------------------------|
| a. Cartilage Cells. | b. Fibrous Intercellular Substance. |
|---------------------|-------------------------------------|

FIG. V. SECTION OF INTERVERTEBRAL SUBSTANCE.

- | | |
|---------------------|-------------------------------------|
| a. Cartilage Cells. | b. Fibrous Intercellular Substance. |
|---------------------|-------------------------------------|

FIG. VI. TRANSVERSE SECTION OF BONE.

- | | |
|--------------------|--------------------------------|
| a. b. Osteoblasts. | c. Opening of Haversian Canal. |
|--------------------|--------------------------------|

FIG. VII. BONE FORMATION.

- | | |
|---|-------------------|
| a. b. Osteoblasts in different stages of formation. | a. Mononucleated. |
| | b. Polynucleated. |

FIG. VIII. LONGITUDNAL SECTION.

Position of Osteoblasts around a vessel in the process of ossification.

FIG. IX. SECTION OF LONG BONE.

- | | |
|--------------------|---|
| 1. Marrow Cavity. | 5. Diaphysis. |
| 2. Periosteum. | 6. 8. Articular Surfaces showing Articular Cartilage. |
| 3. Compact Tissue. | 7. Diaphyso-epiphysal Line. |
| 4. Epiphysis. | |

FIG. X. SECTION OF CERVICAL VERTEBRA.

a. Outer Compact Tissue. *b.* Spongy Tissue. *c.* Inner Compact Tissue.

FIG. XI. SECTION OF LONG BONES, SHOWING COURSE OF NUTRIENT VESSELS.

1. Nutrient Vessel.		3. Compact Tissue.
2. Descending Branch.		4. Medullary Cavity.

FIG. XII. SECTION OF CRANIAL BONE.

a. External Table. *b.* Diploe. *c.* Inner or Vitreous Table.

FIG. XIII. FETAL PELVIS—SIDE VIEW.

1. Sacrum and Coccyx.		5. Acetabulum.
2. Ilium.		6. Obturator Foramen.
3. Ischium.		7. Antero-posterior Diameter.
4. Pubes.		8. Pelvic Axis.

FIG. XIV. SAME—FRONT VIEW.

1. Sacrum.		5. Pubes.
2. Coccyx.		6. Ischium.
3. Ilium.		7. Ilio-pectineal Line.
4. Sacro-sciatic Notch.		8. Acetabulum.

FIG. XV. OS INNOMINATUM, SEPARATED INTO ITS THREE DIVISIONS.

1. Ilium. 2. Ischium. 3. Pubes.

FIG. XVI. FETAL STERNUM—ANTERIOR SURFACE.

1. Manubrium.		4. Fourth Intercostal Space.
2. Second } Intercostal Spaces.		5. Costal Cartilage of Seventh Rib.
3. Third }		6. Ensiform Appendage.

FIG. XVII. FETAL THORAX—FRONT VIEW.

FIG. XVIII. SAME—SIDE VIEW.

1. First Rib. 2, 3. Thoracic Line. 4, 4. Dorsal Vertebrae.

FIG. XIX. FETAL SACRUM AND COCCYX.

FIG. XX. FETAL RIB—SUPERIOR ASPECT.

1. Head.		3. Shaft. Angle.
2. Tubercle.		4. Sternal Extremity.

PLATE VII. FIGS. I TO X.

FIG. I. INFERIOR MAXILLARY BONE—OUTER ASPECT.

1. Symphysis.		3. External Oblique Ridge.
2. Mental Process.		4. Mental Foramen.

- | | |
|-----------------------------|--------------------------------------|
| 5. Inferior Border of Body. | 11. Inferior Dental Foramen. |
| 6. Angle. | 12. Sockets of Lateral Incisors. |
| 7. Coronoid Process. | 13. Sockets of Canines. |
| 8. Sigmoid Notch. | 14. Sockets of Bicuspids. |
| 9. Condyle. | 15, 16, 17. Sockets of three Molars. |
| 10. Neck. | |

FIG. II. SAME BONE—INNER SURFACE.

- | | |
|--------------------------------|---------------------------------------|
| 1. Symphysis. | 8. Alveolar Process. |
| 2. Genial Tubercles. | 9. Inferior Dental Foramen. |
| 3. Depression for Digastricus. | 10. Condyle. |
| 4. Sublingual Fossa. | 11. Neck. |
| 5. Mylo-hyoidean Ridge. | 12. Sigmoid Notch. |
| 6. Lower Border of Body. | 13. Coronoid Process. |
| 7. Angle. | 14. <i>Posterior Border of Ramus.</i> |

FIG. III. SAME BONE—INFERIOR DENTAL CANAL, AND ROOTS OF THE TEETH EXPOSED.

- | | |
|----------------------|---|
| 1. Condyle. | 4, 5. Inferior Dental Vessels and Nerves. |
| 2. Coronoid Process. | |
| 3. Sigmoid Notch. | 6, 6. Their distribution to the fangs of the Teeth. |

FIG. IV. FŒTAL INFERIOR MAXILLARY, SHOWING THE DENTAL SACS OR TEETH GERMS.

- | | |
|-------------------------|-------------------------------|
| a. Alveolar Border. | c. Symphysis and Dental Sacs. |
| b. Lower Border of Jaw. | d. Coronoid Process. |

FIG. V. SAME BONE, SHOWING MILK TEETH.

- | | |
|------------------------|--------------------------------|
| 1. Condylloid Process. | 5. First Milk Molar. |
| 2. Coronoid Process. | 6. Second Milk Molar. |
| 3. Incisors. | 7. Alveoli of Permanent Teeth. |
| 4. Canine. | |

FIG. VI. SAME BONE OF A FŒTUS—SUPERIOR ASPECT.

- | | |
|--------------------------------------|-------------------------------|
| 1. Symphysis. | 4. Sigmoid Notch. |
| 2, 2, 2, 2, 2, 2. Sockets for teeth. | 5. Condyle. [Canal. |
| 3. Coronoid Process. | 6. Opening of Inferior Dental |

FIG. VII. SAME BONE, FŒTAL, BEFORE THE APPEARANCE OF THE ALVEOLAR PROCESS.

- | | |
|-------------------------------|----------------------|
| 1. Symphysis. | 5. Condyle. |
| 2. Lower Border of Jaw. | 6. Sigmoid Notch. |
| 3. Angle. | 7. Coronoid Process. |
| 4. Posterior Border of Ramus. | 8. Alveolar Border. |

FIG. VIII. UPPER AND LOWER JAWS IN POSITION, SHOWING THEIR MODES OF ARTICULATION, AND POSITION OF TEETH.

- | | |
|--|--------------------------------|
| 1. Superior Border of Nasal Bone. | 11. Frontal Process of same. |
| 2. Superior Border of Nasal Process. | 12. Zygomatic Process. |
| 3. Frontal Bone. [cess. | 13. Condyle of Lower Jaw. |
| 4. Margin of Spheno-maxillary Fissure. | 14. Sigmoid Notch. |
| 5. Nasal Bone. [lary. | 15. Posterior Border of Ramus. |
| 6. Nasal Process of Upper Maxilla. | 16. Lower Border of Body. |
| 7. Infraorbital Foramen. | 17. Symphysis. |
| 8. Anterior Nares. | 18, 19. Incisors. |
| 9. Anterior Nasal Spine. | 20. Canine. |
| 10. Malar Bone. | 21, 22. Bicuspids. |
| | 23, 24, 25. Molars. |

FIG. IX. UPPER JAW—INFERIOR ASPECT.

- | | |
|-------------------------------------|-------------------------------|
| 1. Nasal Process. | 9. Posterior Nasal Spine. |
| 2. Anterior Nasal Spine. | 10, 11. Incisors. |
| 3. Infraorbital Foramen. | 12. Canine. |
| 4. Malar Bone. | 13, 14. Bicuspids. |
| 5. Zygomatic Process. | 15, 16, 17. Molars. |
| 6. Anterior Palatine Foramen. | 18. Posterior Dental Foramen. |
| 7. Hard Palate. | 19. Hamular Process. |
| 8. Horizontal Plate of Palate Bone. | |

FIG. X. MALAR BONE—ORBITAL PROCESS, SUPERIOR SURFACE.

- | | |
|------------------------------|--|
| 1. Superior Angle. | 5. Superior Maxillary Border. |
| 2. Anterior Angle. | 6. Border of Spheno-maxillary Fissure. |
| 3. Anterior Superior Border. | 7. Sphenoidal Surface. |
| 4. Orbital Surface. | |

PLATE VIII.

FIG. I. LEFT PALATE BONE—EXTERNAL ASPECT.

- | | |
|--|--|
| 1. Rough surface for Superior Maxillary. | 6. External facet of Zygomatic Surface. |
| 2. Its Anterior Border. | 7. Spheno-palatine Notch. [face. |
| 3. Smooth Zygomatic Surface. | 8. Posterior Palatine Canal. |
| 4. Sphenoid Process. | 9. Tuberosity. |
| 5. Orbital Process. | 10. Posterior border joining Internal Pterygoid Plate. |

FIG. II. SAME BONE—INTERNAL SURFACE.

- | | |
|--|------------------------------|
| 1. Sphenoidal Surface of Orbital Process. [cess. | 3. Sphenoidal Process. |
| 2. Ethmoidal Surface of same Process. | 4. Spheno-palatine Notch. |
| | 5. Superior Turbinate Crest. |

- | | |
|-------------------------------|--|
| 6. Middle Meatus. | 10. Internal Border of Horizontal Plate. |
| 7. Inferior Turbinated Crest. | 11. Anterior portion of Vertical Plate. |
| 8. Inferior Meatus. | |
| 9. Tuberosity. | |

FIG. III. SAME BONE—ANTERIOR BORDER.

- | | |
|--|----------------------------------|
| 1. Ethmoidal Surface of Orbital Process. | 5, 6. Internal Surface. [Plate. |
| 2. Maxillary Surface of same. | 7. Upper Surface of Horizontal |
| 3. Spheno-palatine Notch. | 8. Internal Border of same. |
| 4. Sphenoidal Process. | 9. Tuberosity. [Portion. |
| | 10. External Surface of Vertical |

FIG. IV. SAME BONE—POSTERIOR BORDER.

- | | |
|---|---|
| 1. Sphenoidal Surface of Orbital Process. | 8. Internal Border of same. |
| 2. Orbital Surface of same. | 9. Articular Groove for Internal Pterygoid Plate. |
| 3. Zygomatic Surface of same. | 10. Groove for Internal Pterygoid Muscle. |
| 4. Sphenoidal Process. | 11. Groove for External Pterygoid Plate. |
| 5. Spheno-palatine Notch. | 12. External Portion of Vertical Plate. |
| 6. Internal Surface of Vertical Plate. | |
| 7. Superior Surface of Horizontal Plate. | |

FIG. V. SAME BONE—SUPERIOR ASPECT.

- | | |
|--|--------------------------------------|
| 1. Orbital Process. | 6. Its Posterior Border. |
| 2. Sphenoidal Process. | 7. Its Internal Border. |
| 3. Spheno-palatine Notch. | 8. Its Anterior Border. |
| 4. Posterior Border of Vertical Plate. | 9. Anterior Spine of Vertical Plate. |
| 5. Superior Surface of Horizontal Plate. | 10. Posterior Nasal Spine. |

FIG. VI. SAME BONE—INFERIOR ASPECT.

- | | |
|-----------------------------------|------------------------------|
| 1. Inferior Surface of Horizontal | 6. Sphenoidal Process. |
| 2. Its Posterior Border. [Plate. | 7. Posterior Palatine Canal. |
| 3. Its Anterior Border. | 8. Accessory Palatine Canal. |
| 4. Its Internal Border. | 9. Tuberosity. |
| 5. Orbital Process. | 10. Posterior Nasal Spine. |

FIG. VII. SAME BONE—MATURE FÆTUS—INTERNAL SURFACE.

- | | |
|-----------------------------|---|
| 1. Sphenoidal Process. | 5. Anterior Border of Vertical Plate. |
| 2. Orbital Process. | 6. Internal Border of Horizontal Plate. |
| 3. Spheno-palatine Foramen. | |
| 4. Tuberosity. | |

FIG. VIII. LEFT INFERIOR TURBINATED BONE—INTERNAL SURFACE.

- | | |
|-------------------------------|--------------------------|
| 1. Superior Maxillary Border. | 5. Inferior Free Border. |
| 2. Lachrymal Process. | 6. Anterior Extremity. |
| 3. Ethmoidal Process. | 7. Posterior Extremity. |
| 4. Palatine Border. | |

FIG IX. SAME BONE—OUTER SURFACE.

- | | |
|--|-------------------------|
| 1. Maxillary Border. | 5. Palatine Border. |
| 2. Lachrymal Process. | 6. Posterior Extremity. |
| 3. Ethmoidal Process. [Antrum. | 7. Anterior Extremity. |
| 4. Portion Covering the orifice of the | 8. Inferior Border. |

FIG. X. VOMER—RIGHT SIDE.

- | | |
|----------------------|------------------------|
| 1. Superior Border. | 4. Inferior Border. |
| 2. Posterior Border. | 5. Anterior Extremity. |
| 3. Anterior Border. | |

FIG. XI. VOMER—SUPERIOR AND ANTERIOR BORDERS.

- | | |
|--------------------------------|------------------------|
| 1. Groove and Alæ for Rostrum. | 3. Anterior Extremity. |
| 2. Groove of Anterior Border. | |

FIG. XII. RIGHT NASAL BONE—EXTERNAL SURFACE.

- | | |
|---------------------|---------------------|
| 1. Superior Border. | 3. External Border. |
| 2. Inferior Border. | 4. Internal Border. |

FIG. XIII. SAME BONE—INNER ASPECT.

- | | |
|---------------------|----------------------|
| 1. Superior Border. | 4. Internal Surface. |
| 2. Inferior Border. | 5. Internal Border. |
| 3. External Border. | |

FIG. XIV. FŒTAL VOMER.

- | | |
|---------------------|----------------------|
| 1. Anterior Border. | 3. Posterior Border. |
| 2. Inferior Border. | 4. Superior Border. |

FIG. XV. ETHMOID—SUPERIOR SURFACE.

- | | |
|------------------------------------|---|
| 1. Crista Galli. | 8. Os Planum. |
| 2. Cribriform Plate. | 9. Plate and Cells covered by Nasal Process of Upper Maxillary. |
| 3. Slit for Nasal Nerve. | 10. Posterior part of Lateral Mass. |
| 4. Anterior Ethmoidal Foramen. | 11. Posterior Border of Cribriform Plate. |
| 5. Posterior Ethmoidal Foramen. | 12. Perpendicular Plate. |
| 6. Infundibulum. [Frontal. | |
| 7, 7. Part of Lateral Mass joining | |

FIG. XVI. SAME BONE—INFERIOR SURFACE.

- | | |
|--|--------------------------------------|
| 1. Vertical Plate. | 3. Middle Turbinate Bone. |
| 2, 2. Grooves between Lateral Masses and Vertical Plate. | 4. Inferior Orifice of Infundibulum. |
| | 5. Maxillary Process. |

- | | |
|---|---|
| 6. Palate Process. | 8. Plates and Cells covered by Nasal Process. |
| 7. Posterior Portion of Lateral Masses. | 9. Posterior part of Middle Turbinal. |

FIG. XVII. SAME BONE—ANTERIOR SURFACE.

- | | |
|--|--|
| 1. Crista Galli. | 6. Plate and Cells joining the |
| 2. Eminences on the same. | 7. Os Planum. [Lachrymal. |
| 3. Vertical Plate. | 8. Inferior Border of Same. |
| 4. Groove between it and Lateral Masses. | 9. Plates joining the Middle Turbinal. |
| 5. Lateral Masses and Orifice of Infundibulum. | 10. Anterior Border of Lateral Masses. |

FIG. XVIII. SAME BONE—POSTERIOR SURFACE.

- | | |
|------------------------------------|--|
| 1. Crista Galli. | 6. Posterior Extremity of Superior Meatus. |
| 2. Its eminences. | 7. Posterior Extremity of Middle Turbinal. |
| 3. Vertical Plate. [Masses. | 8. Posterior Ethmoidal Cells. |
| 4. Groove between it and Lateral | |
| 5. Posterior part of Lateral Mass. | |

FIG. XIX. SAME BONE—LEFT SIDE VIEW.

- | | |
|---|--|
| 1. Crista Galli. | 9. Its Anterior Border. |
| 2. Its eminences. | 10. Infundibulum. |
| 3. Anterior Ethmoidal Cell. | 11. Anterior Ethmoidal Cells. |
| 4. Os Planum. | 12. Inferior Border of Vertical Plate. |
| 5. Superior Border of Os Planum. | 13. Its Posterior Border. |
| 6. Its Inferior Border. | 14. Middle Turbinated Bone. |
| 7. Portion of same Border joining Palate. | 15. Its Posterior Extremity. |
| 8. Posterior Border of Os Planum. | 16. Superior Meatus. |

FIG. XX. SAME BONE—LONGITUDINAL SECTION—LEFT SIDE VIEW.

- | | |
|---|---|
| 1. Crista Galli. | 7. Posterior Border. |
| 2. Its eminences. | 8. Slit for Nasal Nerve. |
| 3. Perpendicular Plate. | 9. Inferior Orifices of Olfactory Foramina. |
| 4. Its Anterior Border. | 10. Middle Turbinated Bone. |
| 5. Its Inferior Border joining Cartilage of Septum. | 11. Superior Meatus. [Mass. |
| 6. Articular Surface for Vomer. | 12. Posterior part of Left Lateral |

FIG. XXI. SAME BONE—LONGITUDINAL SECTION—RIGHT SIDE.

- | | |
|---|---|
| 1, 1. Bristles passed through Anterior Ethmoidal Cells and Middle Turbinal. | 2, 2. Bristles passed into Posterior Ethmoidal Cells through the Superior Meatus. |
|---|---|

- | | |
|--|-------------------------------------|
| 3. Posterior Ethmoidal Foramen. | 7. Superior Turbinated. |
| 4. Plate in front of Superior Turbinal. | 8. Superior Meatus. |
| 5. Anterior Ethmoidal Foramen. | 9. Middle Turbinated. |
| 6. Olfactory orifices of Cribriform Plate. | 10. Its Posterior Extremity. [Mass. |
| | 11. Posterior part of Right Lateral |
| | 12, 13. Plates of Anterior Cells. |

FIG. XXII. SAME BONE—LEFT SIDE—OS PLANUM REMOVED TO SHOW ANTERIOR AND POSTERIOR CELLS.

- | | |
|--|---|
| 1. Crista Galli. | 6. Anterior extremity of Middle Turbinal. |
| 2. Its eminences. | 7. Inferior Border of same. |
| 3, 3, 3. Anterior Ethmoidal Cells. | 8. Superior Meatus. |
| 4, 4, 4. Posterior Ethmoidal Cells. | 9. Plate of Anterior Cells. |
| 5. Septum separating Anterior and Posterior Cells. | 10. Plate of Posterior Cells. |

FIG. XXIII. FŒTAL INFERIOR TURBINATED BONE—ANTERIOR ASPECT.

- | | |
|---|---|
| 1. Process projecting from Superior Border. [Surface. | 3. Process projecting downwards from Superior Border. |
| 2. Anterior Extremity and Internal | 4. Concave External Surface. |

PLATE IX. FIGS. I TO V.

FIG. I. FRONTAL BONE—OUTER SURFACE.

- | | |
|-------------------------------|------------------------------------|
| 1. Remains of Frontal Suture. | 7. Orbital Arch. |
| 2. Nasal Eminence. | 8. Supra-orbital Notch or Foramen. |
| 3. Nasal Notch. | 9. Internal Angular Process. |
| 4. Nasal Spine. | 10. External Angular Process. |
| 5. Frontal Eminence. | 11. Temporal Ridge. |
| 6. Superciliary Ridge. | 12. Superior Border. |

FIG. II. FRONTAL BONE—INNER SURFACE.

- | | |
|---|---|
| 1. Groove for superior longitudinal Sinus. [Ethmoid. | 8. Expanded base of the Nasal Spine. |
| 2. Frontal crest, for articulation with | 9. External Angular Process. |
| 3. Foramen Cæcum. | 10. Orbital Arch. |
| 4. Nasal Spine. | 11. Surface articulating with the Great Wing of the Sphenoid. |
| 5. Openings of Frontal Sinuses. | 12. Inferior Border. |
| 6. Anterior Fossa of Skull. | 13. Superior Border. |
| 7. Cerebral Surface of the Orbital Plates. | |

FIG. III. FRONTAL BONE—HORIZONTAL PORTION—EXTERNAL SURFACE.

- | | |
|---------------------------------|--|
| 1. Median line. | 4. Superior Border seen through Ethmoidal Notch. |
| 2. Frontal Eminence. | 5. Frontal Eminence. |
| 3. Openings of Frontal Sinuses. | |

- | | |
|--------------------------------|---|
| 6. Superciliary Ridge. | 12. Inferior Border divided by the Ethmoidal Notch. |
| 7. Orbital Arch. | 13. Surface articulating with Great Wing of Sphenoid. |
| 8. Superior part of the Orbit. | 14. Ethmoidal Cells. |
| 9. Orbital Plate. | 15. Lachrymal Fossa. |
| 10. Internal Angular Process. | 16. Ethmoidal Notch. |
| 11. External Angular Process. | |

FIG. IV. FRONTAL BONE—ANTERIOR SURFACE. ANTERIOR TABLE REMOVED TO SHOW THE CAVITIES, SEPTUM, AND INFERIOR OPENINGS OF THE FRONTAL SINUSES.

- | | |
|---|--|
| 1. Median Line of the bone. | 4. Nasal Notch. |
| 2. Frontal Sinuses, their openings communicating with the Nasal Fossæ, and their prolongations backward to the level of the orbital region. | 5. Nasal Spine. |
| 3. Septum. | 6. Internal Angular Process. |
| | 7. External Angular Process. |
| | 8. Orbital arch and Supra-orbital Foramen. |
| | 9. Temporal Ridge. |

FIG. V. FRONTAL BONES AT BIRTH—DEVELOPED BY TWO LATERAL HALVES—NATURAL SIZE.

PLATE X. FIGS. I TO VI.

FIG. I. RIGHT PARIETAL BONE—EXTERNAL SURFACE—NATURAL SIZE.

- | | |
|---------------------------------|-----------------------------------|
| 1. Parietal Eminence. | 7. Posterior or Occipital Border. |
| 2. Temporal Ridge. | 8. Anterior Superior Angle. |
| 3. Parietal Foramen. | 9. Anterior Inferior Angle. |
| 4. Superior or Parietal Border. | 10. Posterior Inferior Angle. |
| 5. Inferior or Temporal Border. | 11. Posterior Superior Angle. |
| 6. Anterior or Frontal Border. | |

FIG. II. PARIETAL BONE—INTERNAL OR CEREBRAL SURFACE.

- | | |
|-------------------------------------|-------------------------------|
| 1. Parietal Fossa. [tery.] | 8. Inferior Border. |
| 2. Groove for Middle Meningeal Ar. | 9. Anterior Border. |
| 3. Grooves for its branches. | 10. Posterior Border. |
| 4. Parietal Foramen. [Sinus.] | 11. Anterior Superior Angle. |
| 5. Groove for Superior Longitudinal | 12. Anterior Inferior Angle. |
| 6. Groove for Lateral Sinus. | 13. Posterior Superior Angle. |
| 7. Superior Border. | 14. Posterior Inferior Angle. |

FIG. III. OCCIPITAL BONE—OUTER SURFACE—NATURAL SIZE.

- | | |
|---|------------------------------------|
| 1. Smooth Surface for Occipito-Frontalis. | 3. External Occipital Crest. |
| 2. External Occipital Protuberance. | 4. Foramen Magnum. |
| | 5. Basilar Process—Inferior Angle. |

- | | |
|---|----------------------|
| 6. Superior Curved Line. | (not constant.) |
| 7. Rough surface for Muscular Attachment. | 12, 12. Condyles. |
| 8. Inferior Curved Line. | 13. Superior Border. |
| 9. Same as No. 7. | 14. Lateral Angle. |
| 10. Posterior Condylloid Fossa. | 15. Inferior Border. |
| 11. Posterior Condylloid Foramen— | 16. Jugular Process. |
| | 17. Superior Angle. |

FIG. IV. OCCIPITAL BONE—INTERNAL SURFACE.

- | | |
|--|--|
| 1. Groove for Superior Longitudinal Sinus. | 10. Groove for Lateral Sinus. |
| 2. Internal Occipital Protuberance. | 11. Jugular Process. |
| 3. Internal Occipital Crest. | 12. Groove for Petrosal Sinus. |
| 4. Foramen Magnum. | 13. Fossa and Anterior Condylloid Foramen. |
| 5. Basilar Process; anterior surface articulating with body of Sphenoid. | 14. Condyle. |
| 6. Superior Occipital Fossa, for Cerebrum. [side. | 15. Posterior Condylloid Foramen. |
| 7. Groove for Lateral Sinus of left | 16. Superior Border. |
| 8. Groove for Lateral Sinus of right side. [bellum. | 17. Inferior Border. |
| 9. Inferior Occipital Fossa, for Cere- | 18. Superior Angle. |
| | 19. Lateral Angle. |
| | 20. Borders of the Basilar process articulating with petrous portion of Temporal Bone. |

FIGS. V AND VI. FETAL PARIETAL AND OCCIPITAL.

PLATE XI.

FIGS. I TO VII. SPHENOID BONE.

FIG. I. SPHENOID—SUPERIOR SURFACE.

- | | |
|--|--|
| 1. Grooves for Olfactory Nerves. | 14. Cavernous Groove. |
| 2. Optic Groove. | 15. Foramen Rotundum. |
| 3, 3. Optic Foramen. | 16. Foramen Ovale. |
| 4. Superior Surface of Lesser Wing. | 17. Foramen Spinosum. |
| 5. Apex of same. | 18. Posterior surface of body for Occipital. |
| 6. Anterior Clinoid Process. | 19. Posterior surface of body for Petrous. |
| 7. Border of Ala Minor. | 20. Spine of Sphenoid. |
| 8. Pituitary Fossa. | 21. Posterior Border of Alæ Majores. |
| 9. Support of Posterior Clinoid Process. | 22. Triangular surface joining the Frontal. |
| 10. Posterior Clinoid Process. | 23. Articular surface for Parietal. |
| 11. Basilar Groove. | 24. Ethmoidal Spine. |
| 12. Sphenoidal Fissure. | |
| 13. Superior Surface of Ala Major. | |

FIG. II. SAME BONE—INFERIOR SURFACE.

- | | |
|--|---|
| 1, 2. Rostrum. | 14. Border of Spheno-maxillary Fissure. |
| 3. Sphenoidal Sinuses. | 15. Articular Border for Malar Bone. |
| 4. Ethmoidal Spine. | 16. Temporal Surface of Great Wing. |
| 5. Sphenoidal Turbinated Bone. | 17. Zygomatic Surface of Great Wing. |
| 6. Base of Pterygoid Process. | 18. Foramen Ovale. |
| 7. Internal Pterygoid Plate. | 19. Foramen Spinosum. |
| 8. External Pterygoid Plate. | 20. Posterior Border of Great Wing. |
| 9. Posterior Surface of Body. | 21. Tip of Ala Major. |
| 10. Inferior Surface of Lesser Wing. | 22. Sphenoidal Spine. |
| 11. Sphenoidal Fissure. | 23. Foramen Rotundum. |
| 12. Articular Surface of Lesser Wings for Frontal. | |
| 13. Orbital Surface of Great Wing. | |

FIG. III. SAME BONE—ANTERIOR SURFACE.

- | | |
|---|---|
| 1. Support for Posterior Clinoid Process. | 12. Articular Surface for Malar Bone. |
| 2. Olfactory Groove. | 13. Margin of Sphenoidal Fissure. |
| 3, 4. Rostrum. | 14. Sphenoidal Zygomatic Surface. |
| 5, 5. Sphenoidal Sinuses. | 15. Sphenoid portion of Temporal Fossa. |
| 6. Articular Border for Ethmoid. | 16. Articular Border for Frontal. |
| 7. Anterior Border of Lesser Wing. | 17. Apex of Great Wing. |
| 8. Inferior Surface of same. | 18. Foramen Spinosum and Spine. |
| 9. Sphenoidal Fissure. | 19. Foramen Ovale. |
| 10. Foramen Rotundum. | 20. External Pterygoid Plate. |
| 11. Orbital Surface of Great Wing. | 21. Internal Pterygoid Plate. |
| | 22. Vidian Canal. |

FIG. IV. SAME BONE—POSTERIOR SURFACE.

- | | |
|---|--------------------------------------|
| 1. Support for Posterior Clinoid Process. | 9. Anterior Clinoid Process. |
| 2. Posterior Clinoid Process. | 10. Posterior Border of Lesser Wing. |
| 3. Basilar Groove. [ital.] | 11. Internal Pterygoid Plate. |
| 4. Posterior Surface—joins Occip- | 12. External Pterygoid Plate. |
| 5. Pterygo-palatine Fissure. | 13. Pterygoid Fossa. |
| 6. Rostrum. | 14. Extremity of Great Wing. |
| 7. Vidian Canal. [Bone.] | 15. Anterior Border of Great Wing. |
| 8. Posterior Border joining Petrous | 16. Posterior Border of same. |
| | 17. Articular Surface for Malar. |

FIG. V. SAME BONE—SUPERIOR SURFACE. THE UPPER PLATE REMOVED. EXPOSING THE SPHENOIDAL SINUSES AND THEIR SEPTUM.

- | | |
|---|--------------------------------------|
| 1. Superior Surface. | 5. Posterior Clinoid Process. |
| 2. Sphenoidal Sinuses. | 6. Anterior Clinoid Process. |
| 3. Orifices of same. | 7. Optic Foramen. |
| 4. Support for Posterior Clinoid Process. | 8. Superior Surface of Lesser Wings. |

- | | |
|---|---|
| 9. Sphenoidal Fissure. | 16. Foramen Rotundum. |
| 10. Anterior Border of Alæ Minores. | 17. Foramen Ovale. |
| 11. Articular Border of Ala Major
for Frontal. | 18. Foramen Spinosum. |
| 12. Extremity of Great Wing. | 19. Sphenoidal Spine. |
| 13. Posterior Border of Great Wing. | 20. Posterior Surface of Body. |
| 14. Superior Surface of Great Wing. | 21. Posterior Surface of Support of
Posterior Clinoid Processes. |
| 15. Cavernous Groove. | |

FIG. VI. SAME BONE—MATURE FŒTUS—UPPER ASPECT.

- | | |
|-------------------------------|-------------------------|
| 1. Posterior Portion of Body. | 3. Great Wings. |
| 2. Lesser Wings. | 4. Root of Great Wings. |

FIG. VII. SAME BONE—POSTERIOR SURFACE.

- | | |
|-------------------------------|------------------|
| 1. Posterior Surface of Body. | 4. Lesser Wings. |
| 2. Inferior Surface of Body. | 5. Great Wings. |
| 3. Pterygoid Processes. | |

FIG. VIII. SAME BONE—INFERIOR SURFACE.

- | | |
|---|------------------------|
| 1. Anterior Portion of Body. | 5. Sphenoidal Fissure. |
| 2. Lesser Wings. | 6. Great Wings. |
| 3. Posterior Portion of Body. | 7. Pterygoid Process. |
| 4. Cavity found on the Inferior sur-
face of the Fœtal Sphenoid. | 8. Root of Great Wing. |

PLATE XII. FIGS. I TO XIII.

FIG. I. TEMPORAL BONE—EXTERNAL SURFACE.

- | | |
|---|--|
| 1. Squamous Portion. | 13. Superior Orifice of Carotid |
| 2. Zygomatic Process. | 14. Base of Styloid Process. [Canal. |
| 3. Articular Surface for Malar. | 15. Styloid Process. |
| 4. Base of Zygomatic Process. | 16. Mastoid Process. |
| 5. Anterior Root. | 17. Mastoid Groove. |
| 6. Middle Root. | 18. Mastoid Foramen. |
| 7. Posterior Root. | 19. Superior Border. |
| 8. Posterior Margin of Glenoid
Fossa. | 20. Surface for Articulation with
Great Wing of Sphenoid. |
| 9. Auditory Process. | 21. Notch between Petrous and
Squamous Portions. |
| 10. Anterior Portion of Glenoid
Fossa. | 22. Groove between Squamous and
Mastoid Portions. |
| 11. Posterior Portion of same. | 23. Inferior Border. |
| 12. Petrous Portion of Temporal. | |

FIG. II. TEMPORAL BONE—INTERNAL SURFACE.

- | | |
|--|---|
| 1. Squamous Portion, Inner Sur-
face. | 2. Groove for lodgment of Branch
of Middle Meningeal Artery. |
|--|---|

- | | |
|---|--|
| 3. Superior Surface of Petrous Portion. | 13. Groove for Lateral Sinus. |
| 4. <i>Hiatus Fallopii</i> . [tion. | 14. Internal Orifice of Mastoid Foramen. |
| 5. Posterior Surface of Petrous Portion. | 15. Superior Border of Bone. |
| 6. Orifice of <i>Aquæductus Vestibuli</i> . | 16. Surface articulating with the Great Wing of Sphenoid. |
| 7. Meatus Auditorius Internus. | 17. Articular Surface of Zygomatic Process for the Malar Bone. |
| 8. Superior Border of Petrous Portion. | 18. Groove between Squamous and Petrous Portions. |
| 9. Apex of Petrous Portion. | 19. Groove between the Squamous and Mastoid Portions. |
| 10. Surface articulating with Jugular Process of Occipital. | 20. Articular Surface for Occipital. |
| 11. Inferior Border of Petrous Portion. | |
| 12. Styloid Process. [tion. | |

FIG. III. TEMPORAL BONE—INFERIOR SURFACE.

- | | |
|--|--|
| 1. Zygomatic Process. [Bone. | 13. Groove for Lateral Sinus. |
| 2. Articular Surface for Malar Bone. | 14. Vaginal Process. |
| 3. Base of Zygomatic Process. | 15. Meatus Auditorius Externus. |
| 4. Anterior Root. | 16. Stylo-mastoid Foramen. |
| 5. Superior division of Middle Root. | 17. Apex of Mastoid Process. |
| 6. Inferior division of Middle Root. | 18. Groove for Digastric Muscle. |
| 7. Anterior Portion of Glenoid Cavity. | 19. Mastoid Foramen. |
| 8. Posterior Portion of Glenoid Cavity. | 20. <i>Aquæductus Cochlæ</i> , Orifice of. |
| 9. Glaserian Fissure. | 21. Superior Orifice of Carotid Canal. |
| 10. Inferior Orifice of Carotid Canal. | 22. Angle between Squamous and Petrous Portions. |
| 11. Jugular Fossa. | 23. Anterior Border of Squamous Portion. |
| 12. Triangular Surface for articulating with the Jugular Portion of Occipital. | 24. External Surface of Squamous Portion. |

FIG. IV. TEMPORAL BONE OF A MATURE FÆTUS—EXTERNAL SURFACE.

- | | |
|---|---|
| 1. Squamous Portion. | 7. Articular Surface for Malar Bone. |
| 2. Zygomatic Process. | 8. Bony Ring at Meatus Auditorius Externus. |
| 3. Superior Division of Middle Root. | 9. Stylo-mastoid Foramen. |
| 4. Inferior Division of Middle Root. | 10. Mastoid Portion. [tion. |
| 5. Glenoid Cavity (very shallow). | 11. Inferior Border of Mastoid Portion. |
| 6. Angle between the Squamous and Petrous Portions. | 12. Rudiments of Mastoid Process. |

FIG. V. RIGHT SUPERIOR MAXILLARY BONE—EXTERNAL SURFACE.

- | | |
|---|---|
| 1. Apex of Nasal Process articulating with Frontal. | 2. Anterior Border of Nasal Process articulating with Nasal Bone. |
|---|---|

- | | |
|--|--|
| 3. Inner Margin of Posterior Border articulating with Os Unguis. | 9. Posterior Portion of same Border joining the Palate Bone. |
| 4. External Margin of Posterior Border. | 10. Malar Process. |
| 5. Orbital Surface. | 11. Infra-orbital Foramen. |
| 6. Infra-orbital Groove. | 12. Incisive Fossa. |
| 7. Anterior Portion of Border of Orbital Surface articulating with Lachrymal Bone. | 13. Ridge extending from Malar Process to the Alveolar Border. |
| 8. Middle Portion of same joining the Ethmoid. | 14. Maxillary Tuberosity. |
| | 15. Nasal Border. |
| | 16. Anterior Nasal Spine. |
| | 17. Alveolar Border. |

FIG. VI. SAME BONE—INTERNAL SURFACE.

- | | |
|--|---|
| 1. Apex of Nasal Process. | 12. Inferior Meatus. |
| 2. Anterior Border of same. [der. | 13. Antrum of Highmore. |
| 3. Internal Margin of Posterior Border. | 14. Portion of Antrum closed by Palate Bone. |
| 4. Superior Turbinated Crest. | 15. Surface joining the Vertical Portion of Palate. |
| 5. Middle Meatus. | 16. Posterior Palatine Canal. |
| 6. Inferior Turbinated Crest. | 17. Articular Surface for the Tuberosity of Palate. |
| 7. Nasal Notch. | 18. Alveolar Process. |
| 8. Nasal Spine. | 19. Maxillary Tuberosity. |
| 9. Palate Process. | |
| 10. Anterior Palatine Canal. | |
| 11. Hard Palate forming the Floor of the Nose. | |

FIG. VII. SAME BONE—SUPERIOR SURFACE.

- | | |
|--|---|
| 1. Apex of Nasal Process. | 9. Border of Spheno-maxillary Fissure. |
| 2. Its Anterior Border. | 10. Malar Process. [sure. |
| 3. Anterior Nasal Spine. | 11. Two Margins of Posterior Border of Nasal Process. |
| 4, 5. Alveolar Border. | 12. Superior Surface of Palate Process. [Border. |
| 6. Orbital Surface. [face. | 13. Articular Surface for Palate |
| 7. Internal Border of Orbital Surface. | |
| 8. Infra-orbital Groove. | |

FIG. VIII. SAME BONE—INFERIOR SURFACE.

- | | |
|--|---|
| 1. Nasal Process. | 9. Posterior of same. |
| 2. Nasal Notch. | 10. Socket of Middle Incisor Tooth. |
| 3. Nasal Spine. | 11. Socket of Lateral Incisor. |
| 4. Canine Fossa and Infra-orbital Foramen. | 12. Socket of Canine Tooth. |
| 5. Malar Process. | 13, 14. Sockets for two Bicuspids. |
| 6. Palate Process. | 15, 16, 17. Multilocular Sockets of three Molars. |
| 7. Anterior Palatine Foramen. | 18. Internal Surface, articulates with the Palate Bone. |
| 8. Internal Border of Palate Process. | |

FIG. IX. SAME BONE—THE MAXILLARY SINUS, INFRA-ORBITAL CANAL, AND ALVEOLI LAID OPEN.

- | | |
|--|--|
| 1. Apex of Nasal Process. | 11, 11, 11. Divided Portion of the Bone. |
| 2. Anterior Border of same. | 12. Internal Orifice of the Antrum. |
| 3. Internal Margin of Posterior Border. | 13, 13. Internal Wall and Bony Lamina of same. |
| 4. External Margin of same. | 14. Anterior Wall of Antrum. |
| 5. Orbital Surface. | 15. Nasal Notch. |
| 6. Internal Border of same. | 16. Anterior Nasal Spine. |
| 7. Infra-orbital Groove and Canal. | 17, 18. Sockets of the two Incisors. |
| 8. Bifurcation of Infra-orbital Canal. | 19. Socket for the Canine. |
| 9. Inferior Division of same, giving passage to the Dental Nerves. | 20, 21. Sockets for the two Bicuspids. |
| 10, 10. Superior Division of same Canal. | 22, 23, 24. Sockets for the three Molars. |

FIG. X. FETAL MAXILLARY—EXTERNALLY.

- | | |
|--------------------------|--|
| 1. Nasal Process. | 5. Infra-orbital Foramen. |
| 2. Nasal Notch. | 6. Orbital Surface and Infra-orbital Groove. |
| 3. Anterior Nasal Spine. | 7. Malar Process. |
| 4. Inferior Border. | |

FIG. XI. SUPERIOR MAXILLA OF A WOMAN OF NINETY—INFERIOR SURFACE, SHOWING THE COMPLETE OBLITERATION OF THE ALVEOLAR PROCESS.

- | | |
|---|---|
| 1. Nasal Process. | 7. Malar Process. |
| 2. Nasal Notch. | 8. Palate Process. |
| 3. Anterior Nasal Spine. | 9. Its Internal Border. |
| 4. Infra-orbital Foramen. | 10. Anterior Palatine Foramen. |
| 5. Inferior Border. | 11. Posterior Border of Palate Process. |
| 6. Concave Surface from Malar Process to Alveolar Border. | 12. Maxillary Tuberosity. |

FIG. XII. RIGHT MALAR BONE—EXTERNAL SURFACE.

- | | | |
|---|--------|-------------------------------|
| 1. Frontal Process. | [cess. | 6. Posterior Superior Border. |
| 2. Inferior Angle of Maxillary Process. | | 7. Posterior Inferior Border. |
| 3. Anterior Angle of same Process. | | 8. Anterior Inferior Border. |
| 4. Zygomatic Process. | | 9. External Surface. |
| 5. Anterior Superior Border. | | 10. Malar Foramen. |

FIG. XIII. SAME BONE—INTERNAL SURFACE.

- | | | |
|---|-------------|-------------------------------|
| 1. Frontal Process. | [lar Canal. | 7. Anterior Superior Border. |
| 2. Orbital Process and Temporo-malar Canal. | | 8. Anterior Inferior Border. |
| 3, 4. Free Border of Internal Surface. | | 9. Posterior Inferior Border. |
| 5. Articular Surface for Upper Maxillary. | | 10. Anterior Angle. |
| 6. Posterior Superior Border. | | 11. Posterior Angle. |
| | | 12. Inferior Angle. |

PLATE XIII. FIGS. I TO X.

FIG. I. BASE OF THE SKULL—EXTERNAL SURFACE.

- | | |
|---------------------------------------|--------------------------------------|
| I. Sphenoid. | 38. Superior Curved Line. |
| II. Occipital. | 39. External Occipital Crest. |
| III. Temporal. | 40. Inferior Curved Line. |
| IV. Parietal, (posterior inferior an- | 44. Squamous Portion of Temporal. |
| VII. Vomer. [gle.) | 45. Zygomatic Process of Temporal. |
| IX. Malar. | 46. Its Anterior Root. |
| X. Superior Maxillary. | 47. Its Posterior Root. |
| XI. Palate. | 48. Eminentia Articularis. |
| XII. Nasal. | 49. Glenoid Cavity. |
| 13. Great Wing of Sphenoid. | 50. Glaserian Fissure. |
| 15. Spheno-maxillary Fissure. | 51. Mastoid Portion of Temporal. |
| 16. Spine of Sphenoid. | 62. Mastoid Process. |
| 17. Alæ Ingrassiæ. | 53. Occipital Groove. |
| 18. Foramen Ovale. | 55. Mastoid Foramen. |
| 19. Foramen Spinosum. | 57. Meatus Auditorius Externus. |
| 20, 21. External Pterygoid Plates. | 59. Vaginal Process. |
| 22. Internal Pterygoid Plate. | 60. Stylo-mastoid Foramen. |
| 24. Vaginal Process. | 61. Carotid Canal. |
| 25. Hamular Process. | 66. Foramen Lacerum Medium. |
| 26. Basilar Process of Occipital. | 68. Superciliary Ridge of Frontal. |
| 27. Spina Basilaris. | 71. External Angular Process of |
| 31. Condyle. | 80. Alveolar Process. [Frontal. |
| 32. Posterior Condylloid Fossa. | 81. Palate Process of Superior Max- |
| 33. Jugular Fossa. | illary. |
| 36. Smooth Surface for Occipito- | 83. Anterior Palatine Fossa. |
| Frontalis. | 85. Horizontal Plate of Palate Bone. |
| 37. External Occipital Protuberance | 86. Posterior Palatine Foramen. |

FIG. II. BASE OF THE SKULL—CEREBRAL SURFACE.

- | | |
|-------------------------------------|----------------------------------|
| 1. Frontal Bone. | 13. Basilar Suture and Process. |
| 2. Foramen Cæcum. | 14. Foramen Magnum. |
| 3. Crista Galli. | 15. Anterior Condylloid Foramen. |
| 4. Cribriform Plate of Ethmoid. | 16. Groove for Occipital Sinus. |
| 5. Ethmoidal Spine of Sphenoid. | 17. Torcular Herophili. |
| 6. Body of Sphenoid. | 18. Orbital Plate of Frontal. |
| 7. Optic Groove. | 19. Lesser Wing of Sphenoid. |
| 8. Optic Foramen. | 20. Coronal Suture. |
| 9. Sella Turcica. | 21. Parietal Bone. |
| 10. Anterior Clinoid Process. | 22. Squamo-parietal Suture. |
| 11. Support for the Posterior Clin- | 23. Squamo-sphenoidal Suture. |
| oid Processes. | 24. Sphenoidal Fissure. |
| 12. Posterior Clinoid Process. | 25. Foramen Rotundum. |

- | | |
|---------------------------------|--|
| 26. Foramen Ovale. | 36. Posterior-inferior Angle of Parietal. |
| 27. Cavernous Groove. | 37. Mastoid Foramen. |
| 28. Foramen Lacerum Medium. | 38. Masto-occipital Suture. |
| 29. Foramen Spinosum. | 39. Posterior inferior Fossa—for Cerebellum. |
| 30. Hiatus Fallopii. | 40. Groove for Lateral Sinus. |
| 31. Slit for Dura-mater. | 41. Coronal Suture. |
| 32. Meatus Auditorius Internus. | 42. Lambdoid Suture. [ance. |
| 33. Groove for Petrosal Sinus. | 43. External Occipital Protuber- |
| 34. Foramen Lacerum Posterius. | |
| 35. Posterior Condylod Foramen. | |

FIG. III. VERTICAL SECTION OF SKULL—INTERNAL SURFACE.

- | | |
|---|---|
| I. Sphenoid. | 29. Condylod Portion of Occipital. |
| II. Occipital. | 31. Condyle. |
| IV. Parietal. | 36. Pars Occipitalis. [ance. |
| V. Frontal. | 37. External Occipital Protuber- |
| VI. Ethmoid. | 44. Squamous Portion of Temporal. |
| VIII. Inferior Turbinated. | 56. Petrous Portion of Temporal. |
| X. Superior Maxillary. | 63. Meatus Auditorius Internus. |
| XI. Palate. | 67. Frontal Bone. |
| XII. Nasal. | 69. Internal Frontal Bone. |
| 1. Body of Sphenoid—Posterior | 72. Nasal Eminence. |
| 2. Pituitary Fossa. [Surface | 73. Foramen Cœcum. |
| 3. Posterior Clinoid Process. | 74. Frontal Sinus. |
| 4. Groove for Pons Varoli. (Climus Blumenbachii.) | 75. Crista Galli. |
| 6. Olivary Process. | 76. Cribiform Plate. |
| 7. Carotid or Cavernous Groove. | 77. Superior Turbinated Bone. |
| 11. Anterior Clinoid Process. | 78. Middle Turbinated Bone. |
| 20. External Pterygoid Plate. | 79. Nasal Process of Superior Max- |
| 23. Pterygoid Fossa. | 80. Alveolar Process. [illary. |
| 25. Hamular Process. | 82. Crest of Superior Maxillary. |
| 26. Basilar Process. | 84. Perpendicular Portion of Palate Bone. |

FIG. IV. INFERIOR MAXILLARY BONE—INTERNAL SURFACE.

- | | |
|-----------------------------|-----------------------|
| 1. Body. | 6. Sigmoid Notch. |
| 2. Mylo-Hyoidean Line. | 7. Coronoid Process. |
| 3. Alveolar Process. | 8. Condylod Process. |
| 4. Ramus. | 9. Condyle. 10. Neck. |
| 5. Inferior Dental Foramen. | 11. Angle of Jaw. |

FIGS. V, VI, ATLAS—FIG. V, SUPERIOR SURFACE. FIG. VI, INFERIOR SURFACE.

- | | |
|------------------------------------|-----------------------------------|
| 1. Anterior Arch. | 6. Lateral Masses. |
| 2. Tubercle. | 7. Superior Articular Surface. |
| 3. Articular Surface for Odontoid. | 8. Inferior Articular Surface. |
| 4. Posterior Arch. [Process.) | 9. Tubercles for Transverse Liga- |
| 5. Tubercle. (Rudimentary Spinous | 11. Transverse Processes. [ment. |

- Fig. VII. Axis—Superior Surface.
 Fig. VIII. Third Cervical Vertebra—Superior Surface.
 Fig. IX. Dorsal Vertebra—Side View.

FIG. X. LUMBAR VERTEBRA—SIDE VIEW.

- | | |
|----------------------------------|----------------------------------|
| 1. Odontoid Process of Axis. | 6. Superior Articular Processes. |
| 2. Body of Vertebra. | 7. Transverse Process. |
| 3. Arch formed by Laminæ. | 8. Its Anterior Root. |
| 4. Spinous Process. | 9. Its Posterior Root. |
| 5. Inferior Articular Processes. | 10. Demi-facet for Head of Rib. |

PLATE XIV.. FIGS. I TO IX.

FIG. I. SEVENTH CERVICAL VERTEBRA—SUPERIOR SURFACE.

- | | |
|-----------------------|--------------------------------|
| 1. Body. | 3. Superior Articular Process. |
| 2. Vertebral Foramen. | 4. Spinous Process. |

FIG. II. EIGHTH DORSAL VERTEBRA—INFERIOR SURFACE.

- | | |
|--|--------------------------|
| 1. Body. | 4. Spinous Process. |
| 2. Inferior Articular Process looking forward. | 5. Spinal Foramen. |
| 3, 3. Transverse Processes. | 6. Intervertebral Notch. |

FIG. III. SAME VERTEBRA—SUPERIOR SURFACE.

- 1, 2, 3, 4, 5. Same as in the above. Superior Articular Process facing backward.

FIG. IV. FOURTH LUMBAR VERTEBRA—INFERIOR SURFACE.

- | | |
|--------------------------------------|--------------------------------|
| 1. Body. | ing forward and outward. |
| 2. Transverse Process. | 4. Superior Articular Process. |
| 3. Inferior Articular Process, look- | 5. Spinous Process. |

FIG. V. SAME VERTEBRA—UPPER ASPECT.

- | | |
|--------------------------------|--------------------------------|
| 1. Body. | 4. Inferior Articular Process. |
| 2. Transverse Process. | 5. Spinous Process. |
| 3. Superior Articular Process. | |

FIG. VI. SACRUM—ANTERIOR VIEW.

FIG. VII. SACRUM—POSTERIOR VIEW.

- | | |
|--|-----------------------------------|
| 1. Body of Sacral Vertebrae. | 4. Rudimentary Spinous Processes. |
| 2. Anterior Sacral Foramina. | 5. Posterior Sacral Foramina. |
| 3. Rudimentary Coalesced Transverse Processes. | 6. Sacral Cornua. |

FIG. VIII. COCCYX.

1. Rudiments of Transverse Processes.

2. Cornua.

FIG. IX. POSTERIOR ASPECT OF RIBS.

- | | |
|-------------------------|-----------------------|
| 1. Posterior Extremity. | 5. Angle. |
| 2. Head. | 6. Shaft. |
| 3. Tubercle. | 7. Sternal Extremity. |
| 4. Neck. | |

PLATE XV. FIGS. I TO VI.

FIG. I. HUMERUS—POSTERIOR ASPECT.

- | | |
|---------------------------|----------------------|
| 1. Head. | 6. Internal Surface. |
| 2. Neck. | 7. External Surface. |
| 3. Greater Tuberosity. | 8. Inner Condyle. |
| 4. Musculo-spiral Groove. | 9. Trochlea. |
| 5. Posterior Surface. | |

FIG. II. SAME BONE—ANTERIOR VIEW.

- | | |
|--------------------------|---------------------|
| 1. Head. | 8. Outer Surface. |
| 2. Neck. | 9. Inner Surface. |
| 3. Greater Tuberosity. | 10. Coronoid Fossa. |
| 4. Lesser Tuberosity. | 11. Inner Condyle. |
| 5. Bicipital Groove. | 12. Outer Condyle. |
| 6. Insertion of Deltoid. | 13, 14. Trochlea. |
| 7. Anterior Surface. | 15. Capitellum. |

FIG. III. ULNA—INNER ASPECT.

- | | |
|-----------------------|--|
| 1. Olecranon Process. | 6. Interosseous Border. |
| 2. Coronoid Process. | 7. Surface joining Radius. |
| 3. Sigmoid Cavity. | 8. Surface joining Fibro-cartilage of Wrist. |
| 4. Inner Surface. | 9. Styloid Process. |
| 5. Inner Border. | |

FIG. IV. ULNA—SUPERIOR SURFACE.

- | | | |
|------------------------------------|---------|--|
| 1. Olecranon. | [face. | 7. Superior Surface. |
| 2. Internal Lateral Ligament, Sur- | | 8. Internal Border. |
| 3. Greater Sigmoid Cavity. | | 9. Surface for Fibro-cartilage of Wrist. |
| 4. Lesser Sigmoid Cavity. | | 10. Styloid Process. |
| 5. Origin of Flexor Profundus. | | 11. Surface joining Radius. |
| 6. Interosseous Border. | | |

FIG. V. RADIUS—UPPER ASPECT.

- | | |
|-----------------------------|----------------|
| 1. Surface joining Humerus. | 3. Neck. |
| 2. Side of Head. | 4. Tuberosity. |

- | | |
|------------------------------------|------------------------------------|
| 5. Upper Border. | 9. Styloid Process. |
| 6. Outer Surface. | 10. Facets for Carpo-radial Joint. |
| 7. Interosseous Border. | 11. Facet for Radio-ulnar Joint. |
| 8. Groove for Extensores Pollicis. | |

FIG. VI. RADIUS—INFERIOR ASPECT.

- | | |
|----------------------------------|--|
| 1. Humeral Articular Surface. | 11. Groove for Extensor Minimi Digiti. |
| 2. Head. | 12. Groove for Extensor Communis and Indicis. |
| 3. Neck. | 13. Groove for Extensor Secundi—Internodii Pollicis. |
| 4. Tubercle. | 14. Groove for Carpi-radialis Long and Short Extensors. |
| 5. Posterior Surface. | 15. Groove for Extensores Ossis Metacarpi Pollicis and Primi Internod. Pollicis. |
| 6. External Surface. | |
| 7. Inner Border. | |
| 8. Facets for Wrist Joint. | |
| 9. Styloid Process. | |
| 10. Facet for Radio-ulnar Joint. | |

PLATE XVI. FIGS. I TO VI.

FIG. I. OS INNOMINATUM—EXTERNAL SURFACE.

FIG. II. SAME—INTERNAL SURFACE.

- | | |
|-------------------------------------|-----------------------------------|
| 1. Ilium. | 16. Great Sacro-sciatic Notch. |
| 2. Middle Curved Line. | 17. Ischium. |
| 3. Ilio-pectineal Line. | 18. Its Ascending Ramus or Body. |
| 4. Inferior Curved Line. | 19. Descending Ramus. |
| 5. Auricular Surface. | 20. Spine of Ischium. |
| 6. Crest of the Ilium. | 21. Lesser Sacro-sciatic Notch. |
| 7. External Lip of Crest. | 22. Tuberosity of Ischium. |
| 8. Internal Lip. | 23. Obturator Foramen. |
| 9. Intermediate Space. [cess. | 24. Pubes. |
| 10. Anterior Superior Spinous Pro- | 25. Horizontal Ramus. |
| 11. Posterior Superior Spinous Pro- | 26. Descending Ramus. |
| cess. | 27. Crest of Pubes. |
| 12. Anterior Margin. [cess. | 28. Ilio-pectineal Eminence. |
| 13. Anterior Inferior Spinous Pro- | 29. Acetabulum. |
| 14. Posterior Margin—Semilunar | 30. Rim of Acetabulum. |
| Notch. | 31. Cotyloid Notch. |
| 15. Posterior Inferior Spinous Pro- | 32. Semilunar Surface. |
| cess. | 33. Surface for Ligamentum Teres. |

FIG. III. FEMUR.

- | | |
|------------------------|-----------------------------|
| 1. Superior Extremity. | 4. Trochanter Minor. |
| 2. Head. | 5. Trochanter Major. |
| 3. Neck. | 6. Inter-trochanteric Line. |

- | | |
|---------------------------------------|----------------------------|
| 7. Shaft. | 10. Inferior Extremity. |
| 8. Internal Division of Linea Aspera. | 11. External Condyle. |
| 9. External Division of Linea Aspera. | 12. Internal Condyle. |
| | 13. Inter-condyloid Notch. |

FIG. IV. PATELLA—ANTERIOR SURFACE.

- | | |
|-----------------------------|----------|
| 1. Base or Superior Border. | 2. Apex. |
|-----------------------------|----------|

FIG. V. TIBIA.

- | | |
|-------------------------------------|------------------------------------|
| 1. Crest of Tibia. | 7. Apices of Spine. |
| 2. Superior Extremity. | 8. Sulcus between Apices of Spine. |
| 3. External Tuberosity. | 9. Tubercle. |
| 4. Internal Tuberosity. [Femur. | 10. Inferior Extremity. |
| 5. Articular Facets for Condyles of | 11. Facet for Fibula. |
| 6. Spine of Tibia. | 12. Internal Malleolus. |

FIG. VI. FIBULA.

- | | |
|------------------------|------------------------|
| 1. Superior Extremity. | 3. Crest. |
| 2. Shaft. | 4. External Malleolus. |

PLATE XVII. FIGS. I TO XVI.

FIG. I. PALMAR SURFACE OF THE HAND.

FIG. II. DORSAL SURFACE OF THE HAND.

- | | |
|-----------------------|------------------------------|
| 1. Carpus. | 11. Unciform Process. |
| 2. Scaphoid. | 12. Metacarpus. |
| 3. Semilunar. | 13. Base |
| 4. Cuneiform. | 14. Shaft |
| 5. Pisiform. | 15. Head |
| 6. Trapezium. | 16. First Row of Phalanges. |
| 7. Trapezoid. | 17. Second Row of Phalanges. |
| 8. Os Magnum. | 18. Third Row of Phalanges. |
| 9. Head of Os Magnum. | 19. Sesamoid Bones. |
| 10. Unciform. | |

FIG. III. OS CALCIS—UPPER SURFACE

FIG. IV. OS CALCIS—INFERIOR SURFACE.

- | | |
|---------------------------------|----------------------|
| 1. Body of Calcaneum. | 3. Anterior Process. |
| 2. Tuberosity of the Os Calcis. | 4. Internal Process. |

FIG. V. ASTRAGALUS—SUPERIOR SURFACE.

FIG. VI. SAME BONE—INFERIOR SURFACE.

- | | |
|----------|---------|
| 1. Body. | 2. Head |
|----------|---------|

FIG. VII. SCAPHOID—OUTER SURFACE.

FIG. VIII. SAME—INNER SURFACE.

- | |
|----------------------------|
| 1. Tuberosity of Scaphoid. |
|----------------------------|

- Fig. IX. Internal Cuneiform—Outer Aspect.
 “ X. Internal Cuneiform—Inner Aspect.
 “ XI. Middle Cuneiform—Outer Aspect.
 “ XII. Same—Inner Aspect.
 “ XIII. External Cuneiform—Outer Surface.
 “ XIV. Same—Inner Surface.

FIG. XV. CUBOID—VIEWED EXTERNALLY.

FIG. XVI. SAME—INTERNAL SURFACE.

1. Tuberosity of the Cuboid.

2. Groove for Peroneus Longus.

PLATE XVIII. FIGS. I TO LIV.

In the Carpal Bones,

- | | |
|---------------------------------|-----------------------|
| A. Designates Superior Surface. | D. Posterior Surface. |
| B. Inferior Surface. | E. External Surface. |
| C. Anterior Surface. | F. Internal Surface. |

- Fig. 1. Scaphoid—Anterior Surface.
 “ 2. Same—Posterior Surface.
 “ 3. Same—Superior Surface.
 “ 4. Same—Internal Surface.
 “ 5. Semilunar—Anterior Surface.
 “ 6. Same—Posterior Surface.
 “ 7. Same—Internal and Superior Surface.
 “ 8. Same—Internal and Inferior Surface.
 “ 9. Cuneiform—Anterior Surface.
 “ 10. Same—Posterior Surface.
 “ 11. Same—External Surface.
 “ 12. Same—Inferior Surface.
 “ 13. Pisiform—Anterior Surface.
 “ 14. Same—Posterior Surface.
 “ 15. Same—External Surface.
 “ 16. Same—Internal Surface.
 “ 17. Trapezium—Anterior Surface.
 “ 18. Same—Posterior Surface.
 “ 19. Same—Superior and Internal Surface.
 “ 20. Same—Inferior Surface.
 “ 21. Trapezoid—Superior Surface.
 “ 22. Trapezoid—External Surface.
 “ 23. Trapezoid—Posterior Surface.
 “ 24. Trapezoid—Inferior Surface.
 “ 25. Os Magnum—Anterior Surface.
 “ 26. Os Magnum—Internal Surface.
 “ 27. Os Magnum—External Surface.
 “ 28. Os Magnum—Inferior Surface.

Fig. 29. Unciform—Posterior Surface.

" 30. Unciform—Internal Surface.

" 31. Unciform—External Surface.

" 32. Unciform—Inferior Surface.

G. Unciform Process.

		Articular Surfaces of			
Fig. 33.	{	Superior Extremity of First Metacarpal.			
		Inferior	"	"	"
" 34.	{	Superior	"	"	Second
		Inferior	"	"	"
" 35.	{	Superior	"	"	Third
		Inferior	"	"	"
" 36.	{	Internal Surface	"	Fourth	"
		Superior Extremity	"	"	"
		Inferior	"	"	"
" 37.	{	Superior	"	"	Fifth
		Inferior	"	"	"
" 38.	{	Superior	"	"	First Phalanx of Middle Fin.
		Inferior	"	"	" same.
" 39.	{	Superior	"	"	Second
		Inferior	"	"	"
" 40.		Superior	"	"	Third
Fig. 41.	{	First Metatarsal Bone.			
		5. Posterior Extremit, a.			
		6. Anterior Extremit, b.			
Fig. 42.	{	Second Metatarsal Bone.			
		5. Anterior Extremit.			
		6. Posterior Extremit.			
Fig. 43.	{	Third Metatarsal.			
		5. Posterior Extremit.			
		6. Anterior Extremit.			
Fig. 44.	{	Fourth Metatarsal.			
		5. Posterior Extremit.			
		6. Anterior Extremit.			
Fig. 45.	{	Fifth Metatarsal.			
		5. Posterior Extremit.			
		6. Anterior Extremit.			
Fig. 46.	{	First Phalanx of Great Toe			
		5. Posterior Extremit.			
		6. Anterior Extremit.			
Fig. 47.	{	Last Phalanx of Great Toe.			
		5. Posterior Extremit.			
Fig. 48.	{	First Phalanx of Second			
		1. Superior Surface. [Toe.			
		2. Inferior Surface.			
Fig. 48.	{	3. Internal Border.			
		4. Posterior Extremit.			
		5. Anterior Extremit.			
Fig. 49.	{	Second Phalanx of Second			
		1. Superior Surface. [Toe			
		2. Inferior Surface.			
Fig. 50.	{	3. Internal Border.			
		4. Posterior Extremit.			
		5. Anterior Extremit.			
Fig. 51.	{	Second Phalanx of Fourth			
		Superior Surface. [Toe.			
Fig. 52.	{	Third Phalanx of Second			
		1. Superior Surface. [Toe			
		2. Inferior Surface.			
Fig. 53.	{	3. Internal Border.			
		4. Posterior Extremit.			
		5. Anterior Extremit.			
Fig. 54.	{	Carpal Extremit of Ulna.			
		1. Articular Surface of			
		Wrist Joint.			
		2. Styloid Process.			
Fig. 55.	{	Sternal End of Clavicle.			
		Articular Surface.			

- | | | | | | | |
|----------|---|--|--|----------|---|---|
| Fig. 54. | { | Patella—Posterior Surface
1, 2. Surfaces for Condyles
of Femur.
3. Ridge dividing them. | | Fig. 54. | { | 4. Superior Border.
5. Inferior Border.
6. Inner Border.
7. External Border. |
|----------|---|--|--|----------|---|---|

PLATE XIX. FIGS. I TO VII.

FIG. I. SCAPULA—DORSAL SURFACE.

- | | | |
|--|--|---|
| 1. Supra-spinous Fossa.
2. Triangular Surface at Vertebral Border.
3. Spine.
4. Its Inferior Surface.
5. Its External Border.
6. Acromion Process.
7. Tip of Acromion.
8. Coracoid Process. | | 9. Infra-spinous Fossa.
10. Superior Angle.
11. Glenoid Cavity.
12. Neck.
13. External or Axillary Border.
14. Internal or Vertebral Border.
15. Superior Border.
16. Superior Angle.
17. Inferior Angle. |
|--|--|---|

FIG. II. SCAPULA—VENTRAL ASPECT.

- | | | |
|---|--|--|
| 1. Sub-scapular Fossa.
2. Root of Coracoid Process.
3. Tip of same.
4. Supra-scapular Notch.
5. Superior Border.
6. Axillary Border.
7. Vertebral Border. | | 8. Spine.
9. Acromion Process.
10. Facet for Clavicle.
11. Glenoid Cavity.
12. Neck.
13. Superior Angle.
14. Inferior Angle. |
|---|--|--|

FIG. III. SCAPULA—EXTERNAL ASPECT.

- | | | |
|---|--|---|
| 1. Glenoid Cavity.
2. Sub-scapular Fossa.
3. Inferior Angle.
4. Root of Coracoid Process.
5. Insertion of Biceps.
6. Superior Angle. | | 7. Supra-spinous Fossa.
8. Neck.
9. Spine.
10. Infra-spinous Fossa.
11. Acromion Process. |
|---|--|---|

FIG. IV. MANUBRIUM.

FIG. V. GLADIOLUS.

FIG. VI. ENSIFORM APPENDIX.

- | | | |
|---|--|---|
| 1. Manubrium.
2. Interclavicular Notch.
3, 3. Facets for Clavicles.
4. Joint of Manubrium and Gladiolus. | | 5, 5. Facets for Costal Cartilages.
6, 6. Free Borders of the Bone.
7. Joint of Gladiolus and Ensiform Cartilage. |
|---|--|---|

FIG. VII. CLAVICLE—INFERIOR ASPECT.

- | | | |
|--|--|------------------------|
| 1. Sternal Extremity.
2, 2. Surfaces for Ligaments. | | 3. Acromial Extremity. |
|--|--|------------------------|

PLATE XX. FIGS. I TO XIX.

EXTREMITIES AND ARTICULAR SURFACES OF LONG BONES.

FIG. I. HEAD OF HUMERUS.

- | | |
|------------------------|----------------------|
| 1. Articular Surface. | 4. Bicipital Groove. |
| 2. Greater Tuberosity. | 5. Anatomical Neck. |
| 3. Lesser Tuberosity. | |

FIG. II. FŒTAL HUMERUS.

- | | | |
|----------|---------------------|-----------|
| 1. Head. | 2. Lower Extremity. | 3. Shaft. |
|----------|---------------------|-----------|

FIGS. III, IV. UPPER EXTREMITY OF ULNA—SIDE AND POSTERIOR ASPECTS.

- | | |
|-----------------------|----------------------------|
| 1. Olecranon Process. | 3. Greater Sigmoid Cavity. |
| 2. Coronoid Process. | 4. Lesser Sigmoid Cavity. |

FIG. V. HUMERAL FACET OF RADIUS.

1. Surface for Capitulum.

FIG. VI. FŒTAL RADIUS.

- | | | |
|----------|----------------------|-----------|
| 1. Head. | 2. Carpal Extremity. | 3. Shaft. |
|----------|----------------------|-----------|

FIG. VII. LOWER EXTREMITY OF HUMERUS.

- | | |
|--------------------------|----------------------|
| 1, 2. Trochlear Surface. | 5. External Condyle. |
| 3. Capitellum. | 6. Coronoid Fossa. |
| 4. Internal Condyle. | 7. Olecranon Fossa. |

FIG. VIII. CARPAL EXTREMITY OF RADIUS.

- | | |
|----------------------------|-----------------------|
| 1. Facet for Scaphoid. | 5. Styloid Process. |
| 2. Ridge dividing it from— | 6. Anterior Surface. |
| 3. Facet for Semilunar. | 7. Posterior Surface. |
| 4. Facet for Ulna. | |

FIG. IX. UPPER EXTREMITY OF FEMUR.

- | | |
|---|-----------------------------|
| 1. Facet for Acetabulum. | 4. Trochanter Major. |
| 2. Edge of Cartilaginous Covering
of Head. | 5. Trochanter Minor. |
| 3. Neck. | 6. Inter-trochanteric Line. |
| | 11. Shaft. |

FIG. X. FŒTAL FEMUR.

- | | |
|----------------------|--------------|
| 1. Head. | 4. Shaft. |
| 2. Trochanter Major. | 5. Condyles. |
| 3. Trochanter Minor. | |

FIG. XI. UPPER EXTREMITY OF TIBIA.

- | | |
|-------------------------------------|----------------------|
| 1. Spine. | 5. Outer Tuberosity. |
| 2, 3. Facets for Condyles of Femur. | 6. Inner Tuberosity. |
| 4. Tubercle for Ligamentum Patellæ | |

FIG. XII. UPPER ASPECT OF SAME.

- | | | |
|-----------------------------------|------|---------------------------------|
| 1. Ridge for Soleus. | [læ. | 4, 5. Surface for Crucial Liga- |
| 2. Tubercle for Ligamentum Patel- | | ments. |
| 3. Spine. | | 6, 7. Semilunar Cartilage. |

FIG. XIII. LOWER EXTREMITY OF FEMUR.

- | | |
|----------------------------------|-------------------------------------|
| 8. Internal Tuberosity. | 20. Groove for origin of Popliteus. |
| 13, 14. Bifurcated Linea Aspera. | 21. Inner Condyle. |
| 15. Popliteal Space. | 22. Outer Condyle. |
| 19. External Tuberosity. | |

FIG. XIV. LOWER EXTREMITY OF TIBIA.

- | | |
|----------------------|-----------------------------|
| 12. Inner Malleolus. | 13. Surface for Astragalus. |
|----------------------|-----------------------------|

FIG. XV. INFERIOR ASPECT OF SAME.

- | | |
|------------------------|----------------------------------|
| 1. Anterior Surface. | 4. Same Surface of Inner Malleo- |
| 2. Posterior Surface. | 5. Inner Malleolus. [lus. |
| 3. Astragalar Surface. | 6. Facet for Fibula. |

FIG. XVI. FŒTAL TIBIA.

- | | | |
|---------------------|-----------|----------------------|
| 1. Upper Extremity. | 2. Shaft. | 3. Tarsal Extremity. |
|---------------------|-----------|----------------------|

FIG. XVII. FŒTAL FIBULA.

- | | | |
|----------|-----------|------------------------|
| 1. Head. | 2. Shaft. | 3. External Malleolus. |
|----------|-----------|------------------------|

FIG. XVIII. UPPER EXTREMITY OF FIBULA.

1. Head.

FIG. XIX. LOWER EXTREMITY OF FIBULA.

- | | |
|-----------------------------------|--------------------------|
| 6. Outer Surface of External Mal- | 7. Surface for Tibia. |
| leolus. | 8. Facet for Astragalus. |



SYNDESMOLOGY.



SYNDESMOLOGY.

PLATE I.

LIGAMENTS OF THE HEAD AND CERVICAL VERTEBRÆ.

FIG. I.

- | | |
|---------------------------------|----------------------------------|
| I. Sphenoid. | 12. Carotid Canal. |
| 1. Alæ Magnæ. | iv. Parietal. |
| 2. Pterygoid Processes. | v. Malar. |
| 3. External Plate. | vi. Superior Maxillary. |
| 4. Internal Plate. | 13. Palate Process. |
| 5. Hamular Process. | 14. Incisive Foramen. |
| II. Occipital. | 15. Alveolar Process. |
| a. Basilar Portion. | vii. Palate Bone. |
| b. Occipital Portion. | 16. Horizontal Portion. |
| c. Condylloid Portion. | 17. Pterygo-palatine Foramen. |
| 6. Condyle. | viii. Vomer. |
| 7. Anterior Condylloid Foramen. | 18. Middle Turbinated Bone. |
| III. Temporal. | ix. Lower Maxillary. |
| a. Squamous Portion. | 19. Angle. |
| b. Mastoid Portion. | 20. Condylloid Process. |
| c. Petrous Portion. | 21. Coronoid Process. |
| 8. Zygomatic Process. | 22. Sphenoidal Fissure. |
| 9. Mastoid Process. | a. Capsular Ligament of Temporo- |
| 10. Styloid Process. | maxillary Articulation. |
| 11. Foramen Lacerum Posterius. | β. Lateral Ligament. |

FIGS. II AND III. SAME.

FIG. II. EXTERNAL VIEW. FIG. III. INTERNAL VIEW.

- | | |
|-------------------------|---------------------------------|
| I. Sphenoid. | 10. Meatus Auditorius Externus. |
| 1. Sphenoidal Sinus. | iv. Upper Maxillary. |
| 2. Great Wings. | 11. Alveolar Process. |
| 3. Pterygoid Processes. | 12. Palate Process. |
| II. Occipital Bone. | 13. Inferior Turbinated |
| 4. Basilar Portion. | v. Inferior Maxillary. |
| 5. Pars Condylloideus. | 14. Angle. |
| III. Temporal. | 15. Coronoid Process. |
| 6. Petrous Portion. | 16. Condylloid Process. |
| 7. Mastoid Process. | a. Internal Lateral Ligament. |
| 8. Zygomatic Process. | b. External Lateral Ligament. |
| 9. Styloid Process. | c. Stylo-maxillary Ligament. |

FIG. IV.

- | | |
|--------------------------------------|-------------------------------------|
| i. Inferior Maxillary. | 5. Porus Acousticus Externus. |
| 1. Angle. | 6. Zygomatic Process. |
| 2. Coronoid Process. | 7. Glenoid Fossa. |
| 3. Condylloid Process. | a. Capsular Ligament. |
| 4. Articular Surface of the Condyle. | b. Inter-articular Fibro-cartilage. |
| ii. Temporal. | |

FIGS. V. TO XI. ARTICULATIONS OF THE SPINE WITH THE OCCIPITAL BONE.

- | | |
|-----------------------------------|--------------------------------------|
| i. Occipital. | 18. Odontoid Process. |
| 1. Basilar Portion. | 19. Inter-vertebral Foramen. |
| 2. Clivus Blumenbachii. | 20. Transverse Process. |
| 3. Occipital Portion. | 21. Arch. |
| 4. Inner Occipital Crest. | 22. Spinous Process. |
| 5. Condylloid Portion. | iv. Third Cervical Vertebra. |
| 6. Anterior Condylloid Foramen. | 23. Body. |
| 7. Internal Opening of same. | 24. Transverse Process. |
| ii. Atlas. | 25. Articular Process. |
| 8. Anterior Arch. | 26. Spinous Process. |
| 9. Its Tubercle. | a. Capsular Ligament. [ment. |
| 10. Posterior Arch. | b. Anterior Occipito-atloid Liga- |
| 11. Spinous Tubercle. | c. Posterior Occipito-atloid Liga- |
| 12. Transverse Processes. | ment. |
| 13. Foramen for Vertebral Artery. | d. Anterior Common Ligament. |
| 14. Superior Articular Processes. | e. Posterior Surface of b. |
| 15. Inferior Articular Processes. | f. Lateral Check Ligaments. |
| 16. Tubercles for Transverse Lig- | g. Lateral Occipito-atloid Ligament. |
| ament. | h. Occipito-axoid Ligament |
| iii. Axis. | i. Transverse Ligament of Atlas. |
| 17. Body. | |

- FIG. VI. { a. Transverse Ligament.
 { β. Surface articulating with Odontoid.
 { γ. Anterior Arch of Atlas, Articular Cartilage.

- | | |
|--------------------------|------------------------------|
| k. Anterior Atlo-axoid. | m. Ligamentum Subflava. |
| l. Posterior Atlo-axoid. | n. Anterior Common Ligament. |

PLATE II.

LIGAMENTS OF VERTEBRÆ AND RIBS.

- Fig. I. Lumbar Vertebrae.
 " II. Dorsal Vertebrae—Side view.
 " III. Arches of Cervical Vertebrae—Internal Aspect.
 " IV. Arches of Dorsal Vertebrae—Inner Aspect.
 " V. Dorsal Vertebrae and one Rib.
 " VI. Dorsal vertebrae and two Ribs—Side view.

- | | |
|-------------------------------------|---|
| 1. Body of Vertebrae. | <i>c.</i> Inter-vertebral Substance. |
| 2. Arch. | <i>d.</i> Ligamentum Subflava. |
| 3. Transverse Processes. | <i>e.</i> Inter-spinous. |
| 4. Articular Processes. | <i>f.</i> Supra-spinous. |
| 5. Spinous Process. | <i>g.</i> Inter-transverse. |
| 6. Facet for Rib on the Body. | <i>h.</i> Capsular. [bral. |
| 7. Facet for Rib on Transverse Pro- | <i>i.</i> Stellate or Anterior Costo-verte- |
| 8. Inter-vertebral Foramen. [cess. | <i>k.</i> Posterior Costo-transverse. |
| 9. Ribs. | <i>l.</i> Anterior Costo-transverse. |
| <i>a.</i> Anterior Common Ligament. | <i>m.</i> Capsular. |
| <i>b.</i> Posterior Common. | |

FIGS. VII TO IX. STERNUM AND CLAVICLE.

FIG. VII. ANTERIOR VIEW.

FIG. VIII. POSTERIOR VIEW.

FIG. IX. STERNO-CLAVICULAR JOINT.

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|--|--|
| 1. Manubrium. | <i>c.</i> Intercostal Ligaments. |
| 2. Gladiolus. | <i>b.</i> Periosteum. |
| 3. Xiphoid Cartilage. | <i>e.</i> Costo-xiphoid Ligaments. |
| 4. Sternal end of Clavicle. | <i>f.</i> Inter-clavicular. |
| 5. Costal Cartilages. | <i>g.</i> Anterior Sterno-clavicular. |
| 6. Intercostal Muscles. | <i>h.</i> Posterior Sterno-clavicular. |
| <i>a.</i> Anterior Costo-sternal Ligament. | <i>i.</i> Rhomboid. |
| <i>b.</i> Same. | <i>k.</i> Inter-articular Fibro-cartilage. |

PLATE III.

LIGAMENTS OF UPPER EXTREMITY.

FIGS. I TO III. SHOULDER JOINT.

FIGS. IV TO IX. ELBOW JOINT.

- | | |
|--------------------------|--|
| I. Scapula. | 9. Body or Shaft. |
| 1. Venter. | III: Humerus. |
| 2. Dorsum. | 10. Head. |
| 3. Spine. | <i>a.</i> Acromio-clavicular Ligament. |
| 4. Acromion. | <i>b.</i> Trapezoid. |
| 5. Coracoid. | <i>c.</i> Coraco-acromial. |
| 6. Supra-scapular Notch. | <i>d.</i> Transverse. |
| 7. Head. | <i>e.</i> Conoid. |
| II. Clavicle. | <i>f.</i> Capsular. |
| 8. Acromial Extremity. | <i>g.</i> Tendon of Biceps. |

FIGS. IV TO IX.

- | | |
|------------------------|---------------|
| I. Humerus. | 5. Trochlea. |
| 1. Inferior Extremity. | II. Ulna. |
| 2. Internal Condyle. | 6. Olecranon. |
| 3. External Condyle. | 7. Coronoid. |
| 4. Capitulum. | III. Radius. |

- | | |
|------------------------------|-----------------------------|
| 8. Head. | <i>c.</i> External Lateral. |
| 9. Tubercle. | <i>d.</i> Annular Ligament. |
| <i>a.</i> Capsular Ligament. | <i>e.</i> Oblique. |
| <i>b.</i> Internal Lateral. | |

PLATE IV.

LIGAMENTS OF THE HAND.

FIGS. I TO V. CARPUS.

- Fig. I. Second Row—Digital Aspect.
 “ II. Second Row—Brachial Aspect.
 First Row—Digital Aspect.
 “ III. Longitudinal Section.
 “ IV. Dorsal Aspect of Carpus.
 “ V. Palmar Aspect of same.
 “ VI. Hand—Dorsal Surface.
 “ VII. Same—Palmar Surface.
 “ VIII. Longitudinal Section of a Digit.

- | | |
|--|---|
| i. Ulna. | <i>g.</i> Internal Lateral. |
| 1. Styloid Process. | <i>h.</i> External Lateral. |
| ii. Radius. | <i>i.</i> Ligament from Pisiform to Fifth Metacarpal. |
| 2. Styloid Process. | <i>k.</i> Palmar Ligament. [ond. |
| iii. Carpus. | <i>l.</i> Interosseous Ligaments of Sec- |
| 3. Scaphoid. | <i>m.</i> Carpo-metacarpal Ligaments. |
| 4. Semi-lunar. | <i>n.</i> Anterior Ligaments. |
| 5. Cuneiform. | <i>o.</i> External Lateral of Carpus. |
| 6. Pisiform. | <i>p.</i> Superficial Palmar of Third Metacarpus. |
| 7. Trapezium. | <i>q.</i> Same of Second Metacarpal. |
| 8. Trapezoid. | <i>r.</i> Dorsal of Metacarpo-phalangeal Joint. |
| 9. Os Magnum. | <i>s.</i> Dorsal of Metacarpals. |
| 10. Unciform Process. | <i>t.</i> Synovial Membrane. [langes. |
| iv. Metacarpus. | <i>u.</i> Synovial Membranes of Pha- |
| v. Phalanges. | <i>v, z.</i> External Lateral Ligaments of Digits. |
| <i>a.</i> Membrana Sacciformis. | <i>w, y.</i> Internal Lateral of Finger. |
| <i>b.</i> Its Palmar Surface. [Joint. | <i>x.</i> Metacarpal Interosseous. |
| <i>c.</i> Synovial Membrane of Wrist | |
| <i>d.</i> Same—Palmar Aspect. | |
| <i>e.</i> Anterior Ligament of Carpus. | |
| <i>f.</i> Posterior. | |

PLATE V.

LIGAMENTS OF PELVIS.

- | | |
|--------------------------|----------------------------|
| Fig. I. Anterior Aspect. | Fig. IV. Inner Surface. |
| “ II. Posterior Aspect. | “ V. Coxo-femoral Joint. |
| “ III. External Aspect. | “ VI. Same—Sectional View. |

- | | |
|---|--|
| <p>A. Ilium.</p> <p>1. Crest.</p> <p>2. Anterior Superior Spine.</p> <p>3. Anterior Inferior Spine.</p> <p>4. Posterior Superior Spine.</p> <p>5. Posterior Inferior Spine.</p> <p>B. Ischium.</p> <p>6. Descending Ramus.</p> <p>7. Ascending Ramus.</p> <p>8. Tuberosity.</p> <p>9. Spine.</p> <p>C. Pubes.</p> <p>10. Horizontal Ramus.</p> <p>11. Descending Ramus.</p> <p>12. Obturator Foramen.</p> <p>13. Acetabulum.</p> <p>D. Sacrum.</p> <p>E. Coccyx.</p> <p>F. Last Lumbar Vertebra.</p> <p>14. Transverse Process.</p> <p>15. Articular Process.</p> <p>16. Anterior Sacral Foramina.</p> <p>17. Posterior Sacral Foramina.</p> <p>18. Spinous Process.</p> <p>G. Femur.</p> | <p>19. Head.</p> <p>20. Trochanter Major.</p> <p>21. Trochanter Minor.</p> <p>a. Inter-vertebral Substance.</p> <p>b. Anterior Common</p> <p>c. Supra-spinous Common</p> <p>d. Inter-spinous Common</p> <p>e. Anterior Sacro-coccygeal</p> <p>f, g. Posterior Sacro-coccygeal</p> <p>h. Lumbo-iliac</p> <p>i. Lumbo-sacral</p> <p>k. Anterior Sacro-iliac</p> <p>l, m, n, o. Posterior Sacro-iliac</p> <p>p. Oblique Portion of same</p> <p>q. Great Sacro-sciatic</p> <p>r. Lesser Sacro-sciatic</p> <p>s. Obturator Membrane.</p> <p>t. Symphysis Pubis Anterior Lig.</p> <p>u. Sub-pubic Lig.</p> <p>v. Inter-articular Cartilage.</p> <p>w. Cotyloid Ligament.</p> <p>x. Ligamentum Teres.</p> <p>y. Reflected Synovial Membrane.</p> <p>z. Capsular Ligament.</p> |
|---|--|

LIGAMENT.

PLATE VI.

Fig. I. Anterior View of Knee Joint.

" II. Inner Aspect.

" III. External Aspect.

" IV. Laid Open.

" V. Longitudinal Section.

" VI. Posterior View.

- | | |
|---|--|
| <p>A. Femur.</p> <p>1. External Condyle.</p> <p>2. Internal Condyle.</p> <p>3. Articular Surface.</p> <p>B. Patella.</p> <p>C. Tibia.</p> <p>4. Tuberosities.</p> <p>D. Fibula.</p> <p>5. Head.</p> <p>a. Tendon of Quadriceps Extensor.</p> <p>b. Ligamentum Patellæ.</p> <p>c. Capsular Ligament.</p> | <p>d. Ligamentum Mucosum.</p> <p>e. External Lateral Ligament.</p> <p>f, g. Internal Lateral Ligament.</p> <p>h. Ligamentum Posticum Winslowii.</p> <p>i. Anterior Tibio-fibular Ligament.</p> <p>k, l. Posterior Tibio-fibular Ligament.</p> <p>m. Capsular Ligament.</p> <p>n. Posterior or Internal Crucial Lig.</p> <p>o. Anterior or External Crucial Lig.</p> <p>p. External Semilunar Cartilage.</p> <p>q. Internal Semilunar Cartilage.</p> <p>r. Transverse Ligament.</p> |
|---|--|

s. Coronary.
t. Bursa.
u. Tendon of Popliteus.

v. Tendon of Biceps Femoris.
w. Tendon of Semi-membranosus

PLATE VII.

LIGAMENTS OF FOOT

Fig. I. Dorsum of Foot.
 " II. Plantar Surface.
 " III. Leg and Foot.
 " IV. Ligaments of Dorsum of Foot.
 " V. Ligaments of Plantar Surface.

- | | |
|---|---|
| <p>i. Tibia.
 1. Anterior Border.
 2. Internal Malleolus.
 II. Fibula.
 3. External Malleolus.
 III. Astragalus.
 4. Head.
 IV. Os Calcis.
 5. Tuberosity.
 6. Anterior Process.
 7. Internal Process.
 v. Scaphoid.
 Tuberosity.
 VI. Internal Cuneiform.
 VII. Middle Cuneiform.
 XIII. External Cuneiform.
 IX. Cuboid.
 x. Metatarsus.
 XI. Phalanges.
 <i>a.</i> Interosseous Membrane.
 <i>b.</i> Anterior Inferior Tibio-fibular Ligament.
 <i>c.</i> Anterior Annular Ligament.
 <i>d.</i> Posterior Tibio-fibular.
 <i>e.</i> External Calcaneo-astragaloid.</p> | <p><i>f.</i> Superior Astragalo-scaploid.
 <i>g.</i> Superior Calcaneo-cuboid.
 <i>h.</i> Inferior Calcaneo-scaploid.
 <i>i.</i> Short Calcaneo-cuboid.
 <i>k, l.</i> Long Calcaneo-cuboid.
 <i>m.</i> Dorsal Ligaments between Cuboid and Scaphoid.
 <i>n.</i> Scaphoid and Third Cuneiform.
 <i>o.</i> Scaphoid and Middle Cuneiform.
 <i>p.</i> Scaphoid and First Cuneiform.
 <i>q, r, s.</i> Cuboid and three Cuneiform.
 <i>t.</i> Tarso-metatarsal, Dorsal. Fifth.
 <i>u.</i> Tarso-metatarsal, Dorsal. Fourth.
 <i>v.</i> Tarso-metatarsal, Dorsal. Third.
 <i>w, x, y.</i> Tarso-metatarsal, Dorsal.
 <i>z.</i> Dorsal, Metatarsal. [Second.
 <i>a.</i> Inferior Calcaneo-scaploid.
 <i>β.</i> Plantar Ligament between Scaphoid and First Cuneiform.
 <i>γ.</i> Cuboid and Third Cuneiform.
 <i>δ.</i> Second and Third Metatarsals.
 <i>ε.</i> Plantar Metatarsal.
 <i>ζ.</i> Second Plantar Metatarsal.
 <i>η.</i> Fifth Plantar Metatarsal.
 <i>θ.</i> First Plantar Metatarsal.</p> |
|---|---|



MYOLOGY.



MYOLOGY.

PLATE I.

MUSCLES OF UPPER EXTREMITY.

FIG. I. MUSCULAR FIBRE. FIG. II. TENDINOUS FIBRE.

- A. Clavicle.
 - B. Scapula.
 - C. Humerus.
 - D. Ulna.
 - E. Radius.
 - F. Scaphoid.
 - G. Semilunar.
 - H. Cuneiform.
 - I. Pisiform.
 - K. Trapezium.
 - L. Trapezoid.
 - M. Os Magnum.
 - N. Unciform.
 - O. Metacarpus.
 - P. First Phalanges.
 - Q. Second Phalanges.
 - R. Ungual Phalanges.
 - T. Palmar Fascia.
 - U. Annular Ligament.
 - V. Vaginal Ligaments.
 - a. Acromial end of Clavicle.
 - b. Venter of Scapula.
 - c. Cervix Scapulæ.
 - d. Coracoid Process.
 - e. Acromion.
 - f. Head of Humerus.
 - g. External Condyle.
 - h. Internal Condyle.
 - i. Head
 - k. Capitulum
 - l. Tubercle
 - m. Inferior Extremity
 - n. Styloid Process
 - o. Upper Extremity
 - p. Coronoid Process
 - q. Lower Extremity
- } of Radius.
- } of Ulna.

- 1. Coraco-brachialis.
- 2. Biceps.
 - a. Short Head.
 - β. Long Head.
 - γ. Bicipital Fascia.
 - δ. Tendon of insertion.
- 3. Brachialis Anticus.
- 4. Triceps.
 - a. Long Head.
 - β. External Head.
 - γ. Internal Head.
- 5. Anconeus Parvus.
- 6. Supinator Longus.
- 7. Supinator Brevis.
- 8. Pronator Radii Teres.
- 9. Pronator Quadratus.
- 10. Flexor Carpi Ulnaris.
- 11. Extensor Carpi Ulnaris.
- 12. Flexor Carpi Radialis. [ior.
- 13. Extensor Carpi Radialis Long-
- 14. Extensor Carpi Radialis Brevior.
- 15. Palmaris Longus.
- 15. Palmar Fascia.
- 16. Palmaris Brevis.
- 17. Flexor Sublimis Digitorum.
- 17. Its four Tendons to the Fingers.
- 18. Flexor Profundus Digitorum.
- 18. Its four Tendons.
- 19. Lumbricales.
- 20. Extensor Communis Digitorum.
- 21. 22. Interossei.
- 23. Extensor Longus Pollicis.
- 24. Extensor Brevis Pollicis.
- 25. Flexor Longus Pollicis.
- 26. Flexor Brevis Pollicis. [licis.
- 27. Extensor Ossis Metacarpi Pol-

28. Abductor Pollicis.
29. Adductor Pollicis.
30. Opponens Pollicis.
31. Extensor Indicis.
32. Abductor Indicis.

33. Flexor Brevis Minimi Digiti.
34. Abductor Minimi Digiti.
35. Adductor Minimi Digiti.
36. Deltoid.

PLATE II.

(LETTERS SAME AS PLATE I.)

- | | |
|--------------------------------------|---|
| 1. Coraco-brachialis. | 14, 15. Interossei. |
| 2. Triceps. | 16. Extensor Primi Internodii Pollicis. |
| 3. Anconeus. | 17. Extensor Secundi Internodii Pollicis. |
| 4. Supinator Longus. | 18. Extensor Ossis Metacarpi Pollicis. |
| 5. Supinator Brevis. | 19. Extensor Indicis. [licis. |
| 6. Pronator Radii Teres. | 20. Abductor Indicis. |
| 7. Pronator Quadratus. | 21. Subanconeus. |
| 8. Flexor Carpi Ulnaris. | 22. Supra-spinatus. |
| 9. Extensor Carpi Ulnaris. [oir. | 23. Infra-spinatus. |
| 10. Extensor Carpi Radialis Longus. | 24. Teres Minor. |
| 11. Extensor Carpi Radialis Brevior. | 25. Teres Major. |
| 12. Extensor Communis Digitorum. | |
| 13. Extensor Minimi Digiti. | |

PLATE III.

MUSCLES OF THE LOWER EXTREMITY.

- | | |
|--------------------------------|---------------------------|
| A. Last Dorsal Vertebra. | l. External Condyle. |
| B. Lumbar Vertebrae. | m. Inner Condyle. |
| C. Sacrum. | n. Tuberosity of Tibia. |
| D. Ilium. | o. Head of Fibula. |
| E. Pubes. | p. Semilunar Cartilages. |
| F. Ischium. | q. Ligamentum Patellæ. |
| G. Femur. | 1. Psoas Magnus. |
| H. Tibia. | 2. Psoas Parvus. |
| I. Fibula. | 3. Iliacus Internus. |
| K. Patella. | 4. Tensor Vaginæ Femoris. |
| a. Crest of Ilium. | 5. Sartorius. |
| b. Anterior Superior Spine. | 6. Rectus. |
| c. Horizontal Ramus of Pubes. | 7. Vastus Internus. |
| d. Descending Ramus of same. | 8. Vastus Externus. |
| e. Ascending Ramus of Ischium. | 9. Crureus. |
| f. Descending Ramus of same. | 10. Pectineus. |
| g. Tuberosity of same. | 11. Adductor Longus. |
| h. Head of Femur. | 12. Adductor Brevis. |
| i. Trochanter Major. | 13. Adductor Magnus. |
| k. Trochanter Minor. | 14. Gracilis. |

- | | |
|----------------------|-------------------------|
| 15. Semimembranosus. | 20. Obturator Externus. |
| 16. Semitendinosus. | 21. Pyriformis. |
| 17. Biceps. | 22. Quadratus Femoris. |
| 18. Gluteus Medius. | 23. Suberureus. |
| 19. Gluteus Minimus. | |

PLATE IV.

LETTERS SAME AS IN PLATE III, EXCEPTING—

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|---------------------------------------|----------------------|
| A. Coccygeal Vertebra. | 15. Adductor Magnus. |
| n. Posterior Inter-trochanteric Line. | 16. Pectineus. |
| 5. Gluteus Magnus. | 17. Gracilis. |
| 6. Gluteus Medius. | 18. Sartorius. |
| 7. Gluteus Minimus. | 19. Rectus. |
| 8. Pyriformis. | 20. Vastus Externus. |
| 9. Gemelli. | 21. Vastus Internus. |
| 10. Obturator Internus. | 22. Crureus. |
| 11. Obturator Externus. | 23. Biceps. |
| 12. Quadratus Femoris. | 24. Semitendinosus. |
| 13. Adductor Longus. | 25. Semimembranosus. |
| 14. Adductor Brevis. | |

PLATE V.

MUSCLES OF LOWER EXTREMITY.

- | | |
|------------------------------|--------------------------------|
| A. Femur. | 2. Tibialis Anticus. |
| B. Tibia. | 3. Tibialis Posticus. |
| C. Fibula. | 4. Peroneus Longus. |
| D. Os Calcis. | 5. Peroneus Brevis. |
| E. Astragalus. | 6. Peroneus Tertius. |
| F. Scaphoid. | 7. Gastrocnemius. |
| G. First Cuneiform. | 8. Soleus. |
| H. Second Cuneiform. | 9. Plantaris. |
| I. Third Cuneiform. | 10. Flexor Longus Digitorum. |
| K. Cuboid. | 11. Flexor Accessorius. |
| L. Metatarsus. | 12. Flexor Brevis Digitorum. |
| M. First Phalanges. | 13. Lumbricales. |
| N. Second Phalanges. | 14. Extensor Longus Digitorum. |
| O. Third Phalanges. | 15. Extensor Brevis Digitorum. |
| P. Sessamoid Bones. | 16, 17. Interossei. |
| a. Upper Extremity of Tibia. | 18. Extensor Longus Pollicis. |
| b. Lower Extremity of same. | 19. Extensor Brevis Pollicis. |
| c. Internal Malleolus. | 20. Flexor Longus Pollicis. |
| d. External Malleolus. | 21. Flexor Brevis Pollicis. |
| e. Head of Fibula. | 22. Abductor Pollicis. |
| 1. Popliteus. | 23. Adductor Pollicis. |

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|----------------------------------|-----------------------------|
| 24. Transversus Pedis. | 26. Abductor Minimi Digiti. |
| 25. Flexor Brevis Minimi Digiti. | |

PLATE VI.

MUSCLES OF THE HEAD, NECK, AND TRUNK.

- | | |
|-------------------------------------|----------------------------------|
| A. Processus Mastoideus. | 16. Masseter. |
| B. Inferior Maxillary. | 17. Risorius. |
| C. Sternum. | 18. Depressor Anguli Oris. |
| D. Clavicle. | 19. Depressor Labii Inferioris. |
| E. Scapula. | 20. Levator Menti. |
| F. Humerus. | 21. Platysma Myoides. |
| G. Ribs. | 22. Sterno-cleido-mastoid. |
| H. Pelvis. | 23. Trapezius. |
| I. Femur. | 24. Deltoid. |
| a. Manubrium. | 25. Subclavius. |
| b. Gladiolus. | 26. Pectoralis Major. |
| c. Ensiform Appendage. | 27. Pectoralis Minor. |
| d. Sternal End } of the Clavicle. | 28. Serratus Magnus. |
| e. Acromial End } | 29. Latissimus Dorsi. |
| f. Coracoid Process. | 30. External Oblique of Abdomen. |
| g. Ilium. | 31. Rectus Abdominis. |
| h. Pubes. | 32. Pyramidalis. |
| i. Ischium. | 33. Internal Oblique. |
| k. Symphysis Pubis. | 34. Transversalis. |
| l. Spermatic Cord and Testicle. | 35. Triangularis Sterni. |
| 1. 2, 6. Occipito-frontalis. | 36. Subscapularis. |
| 3. Temporal. | 37. Teres Major. |
| 4. Attolens Aurem. | 38. Coraco-brachialis. |
| 5. Attrahens Aurem. | 39. Biceps. |
| 7. Orbicularis Palpebrarum. | 40. Sartorius. |
| 8. Compressor Naris. | 41. Pectineus. |
| 9. Orbicularis Oris. [Nasi. | 42. Adductor Longus. |
| 10. Levator Labii Superioris Alæque | 43. Gracilis. |
| 11. Levator Labii Superioris. | 44. Psoas Magnus. |
| 12. Levator Anguli Oris. | 45. Iliacus. |
| 13. Zygomaticus Minor. | 46. Tensor Vaginæ Femoris. |
| 14. Zygomaticus Major. | 47. Gluteus Medius. |
| 15. Buccinator. | 48. Rectus Femoris. |

PLATE VII.

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|-----------------------|--|
| A. Occipital Bone. | E to I and small letters same as |
| B. Cervical Vertebrae | Plate VI. |
| C. Dorsal Vertebrae. | 1, 2, 3, 4, 5, 6, 7. Same as Plate VI. |
| D. Lumbar Vertebrae. | 8. Masseter Muscle. |

- | | |
|---------------------------------|---------------------------------|
| 9. Platysma Myoides. | 28. Rectus Abdominis. |
| 10. Depressor Labii Inferioris. | 29. Pyramidalis. |
| 11. Internal Pterygoid. | 30. Gluteus Magnus. |
| 12. Sterno-cleido-mastoid. | 31. Gluteus Medius. |
| 13. Biventer Cervicis. | 32. Tensor Vaginæ Femoris. |
| 14. Splenius Capitis. | 33. Vastus Externus. |
| 15. Splenius Colli. | 34. Rectus Femoris. |
| 16. Levator Anguli Scapulæ. | 35. Sartorius. |
| 17. Scalenus Medius. | 36. Pectineus. |
| 18. Trapezius. | 37. Complexus. |
| 19. Deltoid. | 38. Trachelo-mastoid. |
| 20. Infra-spinatus. | 39. Transversalis Colli. |
| 21. Teres Minor. | 40. Inter-transversalis. |
| 22. Teres Major. | 41. Inter-spinales. |
| 23. Latissimus Dorsi. | 42. External Inter-costals. |
| 24. Serratus Magnus. | 43. Internal Inter-costals. |
| 25. Pectoralis Major. | 44. Multifidus Spinæ. |
| 26. Pectoralis Minor. | 45. Internal Abdominal Oblique. |
| 27. External Oblique. | 46. Transversalis Abdominis. |

PLATE VIII.

- | | |
|----------------------------------|---------------------------------|
| <i>k.</i> Sacrum. | 18. Sacro-lumbalis. |
| <i>l.</i> Coccyx. | 19. External Inter-costals. |
| Other letters same as Plate VII. | 20. Serratus Magnus. |
| 1, 2. Occipito-frontalis. | 21. Internal Abdominal Oblique. |
| 3. Temporal. | 22. External Oblique. |
| 4. Masseter. | 23. Transversalis. |
| 5. Internal Pterygoid. | 24. Supra-spinatus. |
| 6. Splenius Capitis. | 25. Infra-spinatus. |
| 7. Biventer Cervicis. | 26. Teres Minor. |
| 8. Trapezius. | 27. Teres Major. |
| 9. Levator Anguli Scapulæ. | 28. Triceps. |
| 10. Splenius Colli. | 29. Deltoid. |
| 11. Rhomboideus Minor. | 30. Gluteus Maximus. |
| 12. Rhomboideus Major. | 31. Gluteus Medius. |
| 13. Serratus Posticus Superior. | 32. Vastus Externus. |
| 14. Serratus Posticus Inferior. | 33. Biceps Femoris. |
| 15. Latissimus Dorsi. | 34. Semitendinosus. |
| 16. Spinalis Dorsi. | 35. Adductor Magnus. |
| 17. Longissimus Dorsi. | 36. Gracilis. |

PLATE IX.

- | | |
|--------------------------------------|-----------------------------|
| <i>F.</i> Clavicle. | 1. Biventer Cervicis. |
| Other letters same as former plates. | 2. Inter-spinales Cervicis. |

- | | |
|-----------------------------------|------------------------------|
| 3. Complexus. | 15. Longissimus Dorsi. |
| 4. Trachelo-mastoid. | 16. Sacro-lumbalis. |
| 5. Obliquus Superior. | 17. 18. Levatores Costarum. |
| 6. Obliquus Inferior. | 19. Inter-costales Externi. |
| 7. Rectus Capitis Posticus Major. | 20. Transversalis Abdominis. |
| 8. Rectus Capitis Posticus Minor. | 21. Quadratus Lumborum. |
| 9. Scalenus Medius. | 22. Inter-transversales. |
| 10. Scalenus Posticus. | 23. Transversalis Cervicis. |
| 11. Multifidus Spinæ. | 24. Splenius Colli. |
| 12. Spinalis Cervicis. | 25. Semi-spinalis Dorsi. |
| 13. Spinalis Dorsi. | 26. Coccygeus. |
| 14. Cervicalis Ascendens. | 27. Rotatores Spinæ. |

PLATE X.

Letters same as Plate VIII.

- | | |
|----------------------------------|------------------------|
| 1. Longus Colli. | 8. Psoas Magnus. |
| 2. Scalenus Medius. | 9. Quadratus Lumborum. |
| 3. Rectus Capitis Anticus Major. | 10. Iliacus. |
| 4. Rectus Capitis Anticus Minor. | 11. Coccygeus. |
| 5. Inter-transversales Cervicis. | 12. Supra-spinatus. |
| 6. Scalenus Anticus. | 13. Teres Major. |
| 7. Diaphragm | 14. Teres Minor. |
| | 15. Subscapularis. |

PLATE XI.

MUSCLES OF THE PALATE AND PHARYNX.

FIG. I. POSTERIOR VIEW OF PHARYNX.

FIG. II. SAME—POSTERIOR WALL OF PHARYNX LAID OPEN.

FIG. III. INSERTION OF PHARYNGEAL MUSCLES.

- | | |
|-----------------------------------|------------------------------------|
| 1. Sphenoid. | 18. Cricoid Cartilage. |
| 2. Clivus Blumberbachii. | 19. Rings of Trachea. |
| 3. Posterior surface of Sphenoid. | 20. Epiglottis. |
| 4. Lesser Wings. | 21. Arytænoid Cartilage. |
| 5. Petrous portion of Temporal. | 22. Levator Palati. |
| 6. Mastoid Process. | 23. Tensor Palati. [strictor. |
| 7. Styloid Process. | 24. Superior Pharyngeal Con- |
| 8. Pterygoid Process. | 25. Stylo-pharyngeus. |
| 9. Lower Jaw. | 26. Horizontal portion of Tensor |
| 10. Posterior Nares. | 27. Azygos Uvulæ. [Palati. |
| 11. Middle Turbinal Bone. | 28. Palato-glossus. |
| 12. Inferior Turbinal Bone. | 29. Palato-pharyngeus. |
| 13. Vomer. | 30. Pterygoideus Internus. |
| 14. Tongue. | 31. Oesophagus. |
| 15. Hyoid Bone. | 32. Middle Pharyngeal Constrictor. |
| 16. 17. Thyroid Cartilage. | 33. Inferior Constrictor. |

Figs. IV, V and VI are outlines of Figs I, II and III. The letters refer to these outline figures.

PLATE XII.

FIG. I. HYOID AND GLOSSAL MUSCLES.

- | | |
|---------------------------|--|
| 1. Upper Lip. | 17. Thyro-hyoid. |
| 2. Alveolar Process. | 18. Sterno-thyroid. |
| 3. Teeth. | 19. Sterno-hyoid. |
| 4. Gums. | 20. Omo-hyoid. |
| 5. Tongue. | 21. Sterno Cleido Mastoid. |
| 6. Inferior Maxilla. | 22. Right Common Carotid Artery. |
| 7. Os Hyoides. | 23. Superior Laryngeal Nerve. |
| 8. Thyroid Cartilage. | 24. Hypo-glossal Nerve. |
| 9. Thyroid Gland. | 25. Lingual Branch of the Fifth Nerve. |
| 10. Genio-glossus Muscle. | a. Labial Glands. |
| 11. Hyo-glossus. | b. Sublingual Glands. |
| 12. Stylo-glossus. | c. Submaxillary Gland. |
| 13. Stylo-hyoid. | d. Wharton's Duct. |
| 14. Digastric. | e. Parotid Gland. |
| 15. Mylo-hyoid. | f. Lymphatic Glands. |
| 16. Genio-hyoid. | |

FIGS. II TO VIII. MUSCLES OF MASTICATION.

- | | |
|----------------------------|------------------------|
| 1. Temporal Muscle. | 4. External Pterygoid. |
| 2. Masseter—Outer Portion. | 5. Internal Pterygoid. |
| 3. Masseter—Inner Portion. | |

FIGS. IX TO XII. MUSCLES OF FAUCES.

- | | |
|----------------------------|------------------------------------|
| 1. Eustachian Tube. | 9. Azygos Uvulæ. |
| 2. Vomer. | 10. Palato-pharyngeus. |
| 3. Posterior Nares. | 11. Tonsils. |
| 4. Inferior Turbinal Bone. | 12. Stylo-pharyngeus. |
| 5. Velum Pendulum Palati. | 13. Middle Constrictor of Pharynx. |
| 6. Uvula. | 14. Œsophagus. |
| 7. Thyroid Cartilage. | 15. Upper Constrictor of Pharynx. |
| 8. Epiglottis. | |

FIGS. IX AND X. SAME MUSCLES.

- | | |
|-------------------------------------|--------------------------------|
| 1. Palate Process of Upper Maxilla. | 7. Constrictor Isthmi Faucium. |
| 2. Palate Bone. | 8. Palato-pharyngeus. |
| 3. Pterygoid Process. | 9. Tensor Palati. |
| 4. Hamular Process. | 10. Levator Palati. |
| 5. Velum Palati. | 11. Tonsils. |
| 6. Uvula. | 12. Tongue. |

PLATES XIII AND XIV.

FIGS. I, II AND III. MUSCLES OF TONGUE AND PHARYNX.

- | | |
|--------------------------------|-------------------------------------|
| 1, 2. Zygoma and Malar Bone. | 20. Cricoid Cartilage. |
| 3. Glenoid Tubercle. | 21. Cartilaginous Rings of Trachea. |
| 4. Meatus Auditorius Externus. | a. Orbicularis Oris. |
| 5. Styloid Process. | b. Buccinator. |
| 6. External Pterygoid Plate. | c. Superior Constrictor of Pharynx. |
| 7. Lachrymal Bone. | d. Middle Constrictor. |
| 8. Fossa Lachrymalis. | e. Inferior Constrictor. |
| 9. Upper Maxillary. | f. Mylo-hyoid. |
| 10. Nasal Process. | g. Genio-hyoid. |
| 11. Nasal Bone. | h. Genio-hyo-glossus. |
| 12. Nasal Cartilages. | i. Hyo-glossus—Hyoid Portion. |
| 13. Inferior Maxillary. | k. Hyo-glossus—Posterior Portion. |
| 14. Os Hyoides. | l. Stylo-glossus. |
| 15. Cornua Minor. | m. Stylo-hyoid Ligament. |
| 16. Greater Cornua. | n. Stylo-hyoid Muscle. |
| 17. Thyroid Cartilage. | o. Slit for Digastric. |
| 18. Upper Cornua. | p. Stylo-pharyngeus. |
| 19. Lower Cornua. | |

FIG. IV. LONGITUDINAL SECTION OF NECK AND HEAD.

- | | |
|--------------------------------------|-----------------------------------|
| 1. Frontal Bone. | 19. Epiglottis. |
| 2. Frontal Sinus. | 20. Ventricle. |
| 3. Sphenoid Bone. | 21. Septum of Nose. |
| 4. Sphenoidal Sinus. | 22. Eustachian Tube. |
| 5. Sella Turcica. | 23. Velum Pendulum Palati et |
| 6. Clivus Blumenbachii. | Uvulæ. |
| 7. Basilar Groove. | 24. Tongue. |
| 8. Petrous Portion of Temporal. | a. Lips. |
| 9. Nasal Crest. | b. Cheek. |
| 10. Incisive Canal. | c. Palato-glossus. |
| 11. Palate Process of Upper Maxilla. | d. Tensor Palati. |
| 12. Inferior Maxillary. | e. Levator Palati. [or. |
| 13. Anterior Arch of Atlas. | f. Superior Pharyngeal Constrict- |
| 14. Odontoid Process. | g. Palato-pharyngeus. |
| 15. Cervical Vertebrae. | h. Stylo-pharyngeus. |
| 16. Spinous Processes. | i. Middle Pharyngeal Constrictor. |
| 17. Posterior Arch of Atlas. | k. Genio-glossus. |
| 18. Os Hyoides. | l. Genio-hyoid. |

PLATE XIII.

FIG. V. EPITHELIAL CELLS (PAVEMENT).

FIG. VI. PORTION OF A RACEMOSE GLAND.

PLATE XIV.

FIGS. V-VIII. HYOID BONE.

- | | | |
|----------|------------------|-------------------|
| 1. Body. | 2. Lesser Cornu. | 3. Greater Cornu. |
|----------|------------------|-------------------|

PLATE XV.

MUSCLES OF THE PERINEUM.

FIG. I. MALE PERINEUM.

FIG. II. FEMALE PERINEUM.

- | | |
|-------------------------------------|------------------------------|
| 1. Coccyx. | 12. Urethra. |
| 2. Tuberosity of Ischium. | 13. Coccygeus Muscle. |
| 3. Pubes. | 14. Obturator Internus. |
| 4. Gluteus Magnus. | 15. Levator Ani. |
| 5. Suspensory Ligament of Clitoris. | 16. External Sphincter. |
| 6. Clitoris. | 17. Internal Sphincter. |
| 7. Labia Minora. | 18. Sphincter Vaginæ. |
| 8. Perineum. | 19. Erector Penis. |
| 9. Anus. | 20. 21. Transversus Perinei. |
| 10. Corpus Cavernosum of Clitoris. | 22. Bulb of Urethra. |
| 11. Corpus Cavernosum of Penis. | |

FIGS. III TO XI. SEPARATE MUSCLES OF THE PERINEUM.

FIG. V.

FIGS. X AND XI.

- | | |
|-------------------------|------------------|
| 23. Muscles of Bladder. | 17. Levator Ani. |
|-------------------------|------------------|

PLATES XVI AND XVII.

FIG. I. HYOID AND LARYNGEAL MUSCLES.

- | | |
|-------------------------------------|--|
| 1. Chin. | 20. Coraco-acromial Ligament. |
| 2. Angle of Lower Jaw. | 21. Anterior Sterno-clavicular Ligament. |
| 3. Mastoid Process. | 22. Rhomboid Ligament. |
| 4. Body of Hyoid Bone. | 23. Omo-hyoid Muscle. |
| 5. Its Greater Cornua. | 24. Scalenus Anticus. |
| 6. Lesser Cornua. | 25. Scalenus Medius. |
| 7. Thyro-hyoid Ligament. | 26. Scalenus Posticus. |
| 8. Thyroid Cartilage. | 27. Sterno-thyroid. |
| 9. Cricoid Cartilage. | 28. Sterno-hyoid. |
| 10. Thyroid Gland. | 29. Thyro-hyoid. |
| 11. Trachea. | 30. Levator Anguli Scapulæ. |
| 12. Clavicle. | 31. Rectus Capitis Anticus Major. |
| 13. Sternum. | 32. Splenius Capitis. |
| 14. Ribs. | 33. Digastricus. |
| 15. Coracoid Process. | 34. Stylo-hyoid. |
| 16. Acromion. | 35. Mylo-hyoid. |
| 17. Glenoid Cavity. | 36. Hyo-glossus. |
| 18. Sub-scapular Fossa. | 37. Genio-hyoid. |
| 19. Transverse Ligament of Scapula. | |

FIGS. II TO XII. MUSCLES OF LARYNX.

- | | |
|-----------------------------------|-----------------------------------|
| 1. Body of Hyoid Bone. | 11. Epiglottis. |
| 2. Greater Cornua. | 12. Thyro-hyoid Muscle. |
| 3. Lesser Cornua. | 13. Crico-thyroid. |
| 4. Thyroid Cartilage. | 14. Crico-arytænoideus Posticus. |
| 5. Upper Cornua. | 15. Crico-arytænoideus Lateralis. |
| 6. Lower Cornua. | 16. Thyro-arytænoideus Inferior. |
| 7. Cricoid Cartilage. Front View. | 17. Thyro-arytænoideus Superior. |
| 8. Cricoid Cartilage. Back View. | 18. Thyro-epiglottideus. |
| 9. Arytenoid Cartilages. | 19. Arytæno-epiglottideus. |
| 10. Cornicula Laryngis. | 20. Arytænoideus. |



ANGIOLOGY.



ANGIOLOGY.

PLATES I AND II.

THE HEART ENCLOSED IN THE PERICARDIUM. NORMAL POSITION.

FIG. I. ANTERIOR ASPECT.

FIG. II. POSTERIOR ASPECT.

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Diaphragm. 2. Œsophageal Opening. 3. Œsophagus. 4. Opening for Vena Cava. 5. Inferior Vena Cava. 6. Pericardium. 7. Pulmonary Veins. 8. Pulmonary Artery. | <ol style="list-style-type: none"> 9. Arch of Aorta. 10. Innominate Artery. 11. Left Common Carotid. 12. Left Subclavian. 13. Superior Vena Cava. 14. Right Innominate Vein. 15. Left Innominate Vein. |
|---|---|

FIG. III. SECTION OF ABDOMINAL AORTA, SHOWING ITS COATS.

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. External or Areolar Elastic Coat. 3. Internal or Epithelial Coat. | <ol style="list-style-type: none"> 2. Middle or Muscular Coat. |
|---|---|

FIG. IV. SECTION OF A VEIN.

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Part not opened. 2. Opened Portion. | <ol style="list-style-type: none"> 3. Valves. 4. Openings of Branches. |
|---|--|

FIG. V. VALVES OF THE VEINS, SHOWING THEM TO BE REFLECTIONS OF THE INTERNAL COAT OF THE VEINS.

FIG. VI. BLOOD CORPUSCLES.

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Fresh Blood Corpuscles. 2. Side view of same. [Blood. 3. Position of Corpuscles in the | <ol style="list-style-type: none"> 4, 6. Corpuscles changed by exposure to the atmosphere. |
|--|---|

PLATES III AND IV.

THE CAVITIES OF THE HEART.

FIG. I. POSTERIOR ASPECT.

- | | |
|---|--|
| <ol style="list-style-type: none"> a. Left Ventricle. b. Right Ventricle. c. Apex of Heart. d. Right Auricle. e. Left Auricle. | <ol style="list-style-type: none"> 1. Arch of the Aorta. 2. Innominate Artery. 3. Left Common Carotid. 4. Left Subclavian. 5. Pulmonary Artery. |
|---|--|

- | | |
|--------------------------|--|
| 6. Superior Vena Cava. | 16. Opening of the Pulmonary Arteries. |
| 7. Inferior Vena Cava. | 17. Septum Ventriculorum. |
| 8. Pulmonary Vein. | 18. Septum Auricularum. |
| 9. Right Auricle. | 19. Annulus Ovalis. |
| 10. Eustachian Valve. | 20. Semilunar Valve. |
| 11. Upper Cornu of same. | 21. Cavity of Left Auricle. |
| 12. Fossa Ovalis. | 22. Appendix Auriculæ. |
| 13. Tricuspid Valve. | 23. Openings of Pulmonary Veins. |
| 14. Musculi Papillares. | 24. Mitral Valve. |
| 15. Columnæ Carneæ. | |

FIG. II. ANTERIOR ASPECT OF SAME.

- | | |
|-------------------------|---|
| a. Right Ventricle. | 6. Left branch of Pulmonary Artery. |
| b. Left Ventricle. | 7. Semilunar Valves. |
| c. Left Auricle. | 8. Corpora Arantii. |
| 1. Arch of the Aorta. | 9. Tricuspid Valves. |
| 2. Innominate Artery. | 10. Right Auriculo-ventricular Opening. |
| 3. Left Common Carotid. | 11. Columnæ Carneæ. |
| 4. Left Subclavian. | |
| 5. Arteria Pulmonalis. | |

FIG. III. LEFT VENTRICLE AND AORTA.

- | | |
|-------------------------|--------------------------------------|
| a. Left Ventricle. | 7. Inferior Vena Cava. |
| b. Apex of Heart. | 8. Orifice of Right Coronary Artery. |
| c. Right Ventricle. | 9. Opening of Left Coronary Artery. |
| d. Appendix Auriculæ. | 10. Semilunar Valves. |
| 1. Arch of Aorta. | 11. Corpora Arantii. |
| 2. Innominate Artery. | 12. Sinuses of Valsalva. |
| 3. Left Common Carotid. | 13. Mitral Valves. |
| 4. Left Subclavian. | 14. Chordæ Tendineæ. |
| 5. Superior Vena Cava. | 15. Columnæ Carneæ. |
| 6. Pulmonary Artery. | |

PLATES V AND VI.

ARTERIES OF THE HEAD, NECK, AND UPPER PART OF THE THORAX.

- | | |
|---------------------------|-------------------------------------|
| a. Zygomaticus Major. | l. Stylo-glossus. |
| b. Depressor Anguli Oris. | m. Sublingual Glands. |
| c. Buccinator. | n. Mylo-hyoid. |
| d. Masseter. | o. Hyo-glossus. |
| e. Steno's Duct. | p. Omo-hyoid. |
| f. Retrahens Aurem. | q. Sterno-hyoid. |
| g. Pinna. | r. Thyroid Cartilage. |
| h. Sterno-cleido-Mastoid. | s. Thyro-hyoid. |
| i. Digastric. | t. Inferior Pharyngeal Constrictor. |
| k. Styloid Process. | u. Rectus Capitis Anticus Major. |

- | | |
|--|---|
| <p> <i>v.</i> Thyroid Gland.
 <i>w.</i> Trachea.
 <i>x.</i> Sterno-thyroid.
 <i>y.</i> Sterno-hyoid.
 <i>z.</i> Scalenus Anticus.
 <i>a.</i> Scalenus Medius.
 <i>β.</i> Scalenus Posticus.
 <i>γ.</i> Levator Anguli Scapulæ.
 <i>δ.</i> Splenius Capitis.
 <i>ε.</i> Trapezius.
 <i>ζ.</i> Deltoid.
 <i>η.</i> Clavicle.
 <i>θ.</i> Pectoralis Major.
 <i>ι.</i> Subclavius.
 <i>κ.</i> Ribs.
 <i>λ.</i> Pectoralis Minor.
 <i>μ.</i> Intercostales.
 <i>ν.</i> Rectus Abdominalis.
 <i>ξ.</i> Serratus Anticus Major.
 <i>ο.</i> Latissimus Dorsi.
 <i>π.</i> Teres Major.
 <i>ρ.</i> Subscapularis.
 <i>σ.</i> Coraco-brachialis.
 <i>υ.</i> Biceps.
 <i>υ.</i> Long Head of Triceps.
 <i>Ο.</i> Lymphatic Glands.
 1. Right Common Carotid Artery.
 2. Internal Carotid Artery.
 3. External Carotid Artery.
 4. Superior Thyroid.
 5. Superior Laryngeal.
 6. Branch to Sterno-hyoid.
 7. Thyroid Branch.
 8. Lingual Artery.
 9. Hyoid Branch.
 10. Branch to Sterno-mastoid.
 11. Facial.
 12. Ascending Palatine.
 13. Tonsillar Branch.
 14. Submental.
 15. Branch to Masseter.
 16. Buccinator Branch.
 17. Superficial Labial.
 18. Inferior Coronary.
 19. Superior Coronary.
 20. Ascending Pharyngeal Branch. </p> | <p> 21. Occipital.
 22. Stylo-mastoid Branch.
 23. Posterior Auricular.
 24. Branches to Parotid Gland.
 25. Transverse Facial.
 26. Muscular Branch.
 26. Superficial Temporal.
 28. Internal Maxillary.
 29. Inferior Maxillary Branch.
 30. Subclavian Artery.
 31. Internal Mammary.
 32. External Branch.
 33. Inferior Thyroid.
 34. Branch to Trachea.
 35. Thyroid Branch.
 36. Inferior Laryngeal.
 37. Branch to Longus Colli.
 38. Supra-scapular.
 39. Superficial Cervical.
 40. Cervicalis Ascendens.
 41. Vertebral.
 42. Transversalis Colli.
 43. Branch to Trapezius Muscle.
 44. Axillary Artery.
 45. Branch to Serratus Anticus.
 46. Superior Thoracic.
 47. Branch to Pectoralis Minor.
 48. Branch to Pectoralis Major.
 49. Branch to Serratus Anticus.
 50. Acromial Thoracic.
 51. Clavicular Branch.
 52. Acromial Branch.
 53. Deltoid Branch.
 54. Branch to Pectoralis Major.
 55. Thoracica Longa.
 56. Branch to Pectoralis Minor.
 57. Branch to Serratus Magnus.
 58. Anastomosis with Subscapular.
 59. Subscapular Artery.
 60. Subscapular Branch.
 61. Thoracic Branch.
 62. Branch to Axillary Lymphatics.
 63. Branch to Latissimus Dorsi.
 64. Branch to Serratus Magnus.
 65. Circumflex Scapulæ.
 66. Branch to Teres Major. </p> |
|--|---|

- | | |
|------------------------------------|----------------------------------|
| 67. Muscular Branch. | 73. Brachial Artery. |
| 68. Branch to Axillary Lymphatics. | 74. Branch to Coraco-brachialis. |
| 69. Branch to Latissimus Dorsi. | 75. Branch to Anconeus. |
| 70. Branch to Coraco-brachialis. | 76. Cutaneous Branch. |
| 71. Anterior Circumflex. | 77. Branch to Biceps. |
| 72. Posterior Circumflex. | 78. Profunda Superior. |

PLATES VII AND VIII.

ARTERIES OF THE FACE.

- | | |
|--|--|
| <i>a, b, c.</i> Occipito-frontalis Muscle. | ξ. Trapezius. |
| <i>d.</i> Attolens Aurem. | ο. Splenius Capitis. |
| <i>e.</i> Orbicularis Palpebrarum. | 1. Common Carotid Artery. |
| <i>f.</i> Zygomaticus Major. | 2. Internal Carotid Artery. |
| <i>g.</i> Zygomaticus Minor. | 3. External Carotid Artery. |
| <i>h.</i> Levator Anguli Oris. | 4. Superior Thyroid. |
| <i>i.</i> Levator Labii Superioris. | 5. Internal Laryngeal. |
| <i>k.</i> Levator Labii Superioris Alaque
Nasi. | 6. Superficial Laryngeal. |
| <i>l.</i> Compressor Narium. | 7. Muscular Branches. |
| <i>m.</i> Orbicularis Oris. | 8. Thyroid Branch. |
| <i>n.</i> Quadratus Menti. | 9. Tracheal Branches of Inferior
Thyroid. |
| <i>o.</i> Depressor Anguli Oris. | 10. Branch to Sterno-cleido-mastoid. |
| <i>p.</i> Buccinator. | 11. Ascending Pharyngeal. |
| <i>q.</i> Inferior Maxillary Bone. | 12. Lingual Artery. |
| <i>r.</i> Masseter. | 13. Hyoid Branch. |
| <i>s.</i> Parotid Gland. | 14. Facial. |
| <i>t.</i> Steno's Duct. | 15. Branch to Sub-maxillary Gland. |
| <i>u.</i> Temporal Muscle. | 16. Submental. |
| <i>v.</i> Sub-maxillary Gland. | 17. Masseteric Branch. |
| <i>w.</i> Digastric Muscle. | 18. Superficial Labial. |
| <i>x.</i> Stylo-hyoid Muscle. | 19. Inferior Coronary. |
| <i>y.</i> Thyroid Cartilage. | 20, 21, 22. Muscular Branches. |
| <i>z.</i> Trachea. | 23. Inferior Coronary. |
| <i>a.</i> Sterno-hyoid. | 24. Facial. |
| <i>γ.</i> Thyro-hyoid. | 25. Superior Coronary. |
| <i>δ.</i> Os Hyoides. | 26. Lateralis Nasi. |
| <i>ε.</i> Omo-hyoid. | 27. Branch to the Septum of the
Nose. |
| <i>ζ.</i> Inferior Pharyngeal Constrictor. | 28. Dorsalis Nasi. |
| <i>η.</i> Thyroid Gland. | 29. External Carotid. |
| <i>θ.</i> Sterno-cleido-mastoid. | 30. Occipital. |
| <i>ι.</i> Scalenus Anticus. | 31. Branch to Splenius Capitis. |
| <i>x.</i> Inferior Cervical Nerve. | 32. Cervical Branches. |
| <i>λ.</i> Scalenus Medius. | 33. Superficial Branches. [tery. |
| <i>μ.</i> Scalenus Posticus. | 34. Anastomoses with Temporal Ar- |
| <i>υ.</i> Levator Anguli Scapulæ. | |

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|---|-------------------------------------|
| 35. Superior Auricular Branch to
Sterno-mastoid. | 44. Anastomoses with Occipital. |
| 36. Transverse Facial. | 45. Dorsalis Nasi, from Ophthalmic. |
| 37. Muscular Branches. | 46. Infra-orbital. |
| 38. Temporal Artery. | 47. Frontal. |
| 39. Anterior Auricular. | 48. Internal Mammary. |
| 40. Anterior Temporal. | 49. Supra-scapular. |
| 41. Middle Temporal. [tery. | 50. Superficial Cervical. |
| 42. Anastomoses with Frontal Ar- | 51. Cervicalis Ascendens. |
| 43. Posterior Temporal. | 52. Transversalis Colli. |
| | 53. Subclavian Artery. |

PLATES IX AND X.

DEEP BRANCHES OF EXTERNAL CAROTID.

FIG. I.

- | | |
|---|--------------------------------|
| a. Section of Cranial Bones. | 7. Transverse Facial. |
| b. Dura Mater. | 8. Superficial Temporal. |
| c. Orbicularis Palpebrarum. | 9. Anterior Temporal. |
| d. Levator Labii Superioris Alæque
Nasi. | 10. Posterior Temporal. |
| e. Compressor Narium. | 11. Internal Maxillary. |
| f. Levator Anguli Oris. | 12. Pterygoid Branch. |
| g. Levator Labii Superioris. | 13. Middle Meningeal. |
| h. Zygomaticus Minor. | 14. Tympanic Branch. |
| i. Zygomaticus Major. | 15. Inferior Maxillary Branch. |
| k. Quadratus Mentis. | 16. Deep Temporal. |
| l. Depressor Anguli Oris. | 17. Pterygoid Branch. |
| m. Lower Jaw. | 18. Deep Temporal. |
| n. Masseter. | 19. Buccal Branch. |
| o. Buccinator. | 20. Masseteric Branch. |
| p. Steno's Duct. | 21. Descending Palatine. |
| q. Inferior Maxillary Branch. | 22. Superior Maxillary Branch. |
| r. Styloid Process. | 23. Infra-orbital. |
| s. Internal Pterygoid | 24. Posterior Nasal. |
| t. External Pterygoid. | 25. Frontal. |
| u. Temporal Muscle. | 26. Muscular Branch. |
| v. Zygomatic Process of Malar Bone. | 27. Dorsalis Nasi. |
| w. Zygomatic Process of Temporal. | 28. Superficial Labial. |
| 1. Internal Carotid Artery. | 29. Masseteric Branch. |
| 2. External Carotid " | 30. Inferior Coronary. |
| 3. Masseteric Branch " | 31. Mental Branch. |
| 4. Posterior Auricular " | 32. Labial. |
| 5. Deep Auricular " | 33. Superior Coronary. |
| 6. Parotid Branch " | 34. Lateralis Nasi. |
| | 35. Artery of Septum. |

FIGS. II AND III. ARTERIES OF NOSE AND TONGUE.

- | | |
|--|--|
| <i>a.</i> Frontal Bone. | <i>γ.</i> Genio-hyoid. |
| <i>b.</i> Crista Galli. | <i>z.</i> Sterno-hyoid. |
| <i>c.</i> Body of Sphenoid Bone. | <i>a.</i> Omo-hyoid. |
| <i>d.</i> Sella Turcica. | <i>β.</i> Hyoid Bone. |
| <i>e.</i> Posterior Clinoid Process. | <i>γ.</i> Thyro-hyoid. |
| <i>f.</i> Sphenoidal Sinus. | <i>δ.</i> Mylo-hyoid. |
| <i>g.</i> Basilar Groove. | <i>ε.</i> Superior Pharyngeal Constrictor. |
| <i>h.</i> Eustachian Tube. | <i>ζ.</i> Thyroid Cartilage. |
| <i>i.</i> Mucous Follicles. | 1. Common Carotid Artery. |
| <i>k.</i> Section of Nasal Bones and Cartilages. | 2. Internal Carotid " |
| <i>l.</i> Upper Maxillary. | 3. Superior Thyroid " |
| <i>m.</i> Palate Bone. | 4. Superior Laryngeal " |
| <i>n.</i> Velum Pendulum Palati. | 5. Lingual " |
| <i>o.</i> Upper Lip. | 6. Hyoid " |
| <i>p.</i> Space between Upper Lip and Gums. | 7. Dorsalis Linguae " |
| <i>q.</i> Alveolar Process. | 8. Sub-lingual " |
| <i>r.</i> Tongue. | 9. Ranine " |
| <i>s.</i> Stylo-glossus. | 10. Labial " |
| <i>t.</i> Lower Lip. [Gums. | 11. External Carotid " |
| <i>u.</i> Space between Lower Lip and | 12. Descending Palatine " |
| <i>v.</i> Lower Jaw Bone. | 13. Alveolar Branches. |
| <i>w.</i> Genio-glossus. | 14. Branches to Septum from Posterior Nasal. |
| <i>x.</i> Hyo-glossus. | 15. Incisive Branch. [thalmic. |
| | 16. Ethmoidal Branches of Oph- |

FIG. III.

- | | |
|--|--|
| <i>a</i> to <i>q.</i> Same as in previous figures. | 5. Branch of Posterior Nasal. |
| <i>r.</i> Superior } Turbinated Bones. | 6. Branch to Superior Turbinated Bone. |
| <i>s.</i> Middle } | 7. Same to Middle Turbinated Bone. |
| <i>t.</i> Inferior } | 8. Same to Inferior Turbinated Bone. |
| 1. Ethmoidal Artery. | 9. Branch to Eustachian Tube. |
| 2. Its continuation to the Alæ Nasi. | 10. Branch to Soft Palate. |
| 3. Branches to Inferior Turbinated Bone. | |
| 4. To Middle Turbinated Bone. | |

PLATES XI AND XII.

FIG. I. THE VERTEBRAL ARTERY.

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|--|---|
| <i>a.</i> Posterior Arch of Atlas. | <i>d.</i> Transverse Processes of Cervical Vertebrae. |
| <i>b.</i> Transverse Process of Atlas. | <i>e.</i> First Rib. |
| <i>c.</i> Spinous Processes of Cervical Vertebrae. | <i>f.</i> Scalenus Anticus. |

<i>g.</i> Scalenus Posticus	} Muscles.	7. Thyroid Axis.
<i>h. i.</i> Sterno-cleido Mastoid		8. Vertebral Artery. [Axis.
<i>k.</i> Longus Colli		9. Its course between the Atlas and
<i>l.</i> Semi-spinalis Cervicis		10. Its continuation to the Occipital
<i>m.</i> Obliquus Inferior		Bone.
<i>n, o.</i> Rectus Capitis Posticus Major		11. Branches to Longus Colli.
1. Innominate Artery. [Muscle.		12. Deep Branches.
2. Common Carotid.		13. Muscular Branch.
3. Subclavian.		14, 15. Superior Intercostal.
4. Internal Mammary.		16. Deep Cervical.
5. Inferior Thyroid.		17. Transversalis Colli.
6. Thyroid Branch.		18. Subclavian Artery.

FIG. II. ARTERIES OF THE BRAIN.

<i>a, a.</i> Anterior Lobes.	} Nerves.	<i>t.</i> Glosso-pharyngeus
<i>b.</i> Fissure of Sylvius.		<i>u.</i> Pneumogastric
<i>c, c.</i> Middle Lobes.		<i>v.</i> Hypo-glossal
<i>d, d.</i> Posterior Lobes.		1. Vertebral Artery.
<i>e.</i> Cerebellum.		2. Posterior Cerebellar.
<i>f.</i> Medulla Oblongata.		3. Basilar.
<i>g.</i> Pons Varollii.		4. Anterior Spinal.
<i>h.</i> Peduncles.		5. Branch to Spinal Cord.
<i>i.</i> Tuber Cinereum.		6. Anterior Cerebellar. [Nerve.
<i>k.</i> Infundibulum.		7. Branch to Pons Varolii and fifth
<i>l.</i> Olfactory		8. Superior Cerebellar.
<i>m.</i> Optic		9. Posterior Cerebral.
<i>n.</i> Motor Oculi		10. Posterior communicating.
<i>o.</i> Trochlearis		11. Internal Carotid.
<i>p.</i> Trigemini		12. Middle Cerebral.
<i>q.</i> Abducens		13. Anterior communicating.
<i>r.</i> Facial		14. Anterior Cerebral.
<i>s.</i> Auditory		15. Branches of Middle Cerebral.

FIG. III. ARTERIES OF THE ARM.

<i>a.</i> Deltoid	} Muscles.	<i>n.</i> Supinator Longus	} Muscles.
<i>b.</i> Pectoralis Major		<i>o.</i> Pronator Radii Teres	
<i>c.</i> Latissimus Dorsi		<i>p.</i> Flexor Carpi Radialis	
<i>d.</i> Teres Major		<i>q.</i> Palmaris Longus	
<i>e.</i> Teres Minor		<i>r.</i> Flexor Carpi Ulnaris	
<i>f.</i> Triceps		1. Brachial Artery.	
<i>g.</i> Subanconeus		2. Branch to Triceps.	
<i>h.</i> Coraco-brachialis		3. Superior Profunda.	
<i>i.</i> Biceps		4. Muscular Branches.	
<i>k.</i> Bicipital Fascia.		5. Anterior Ulnar Recurrent.	
<i>l.</i> Tendon of Biceps.		6. Muscular Branch to Biceps.	
<i>m.</i> Brachialis Anticus Muscle.		7. Branch to Triceps.	

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|-----------------------------------|-----------------------|
| 8. Muscular Branches. | 11. Ulnar. |
| 9. Deep Ulnar Recurrent. | 12. Radial. |
| 10. Branch to Brachialis Anticus. | 13. Radial Recurrent. |

PLATES XIII AND XIV.

ARTERIES OF THE FOREARM AND HAND.

FIG. I.

- | | |
|------------------------------------|--------------------------------------|
| a. Biceps Muscle. | 3. Branch to Brachialis Anticus. |
| b. Its Tendons. | 4. Branch to Pronator Teres. |
| c. Brachialis Anticus Muscle. | 5. Radial Recurrent. |
| d. Internal Inter-muscular Septum. | 6. Radial Artery. |
| e. Subanconeus. | 7. Muscular Branches. |
| f. Internal Condyle. | 9. Superficialis Volæ. |
| g. Pronator Radii Teres | 10. Branches to the Muscles of the |
| h. Supinator Longus | Thumb. |
| i. Supinator Brevis [oir | 11. Radial. |
| k. Extensor Carpi Radialis Long- | 12. Muscular Branches. |
| l. Extensor Longus Pollicis | 13. Ulnar Artery. |
| m. Extensor Brevis Pollicis | 14. Branches to the Flexor Muscles. |
| n. Palmaris Longus | 15. Branch to Palmaris Brevis. |
| o. Palmar Fascia | 16. Ulnar Artery forming Superficial |
| p. Flexor Carpi Radialis | Palmar Arch. |
| q. Flexor Carpi Ulnaris | 17. Deep Branch of Ulnar Artery. |
| r. Flexor Sublimis Digitorum | 18. Palmar Digital Branch to Little |
| s. Its Four Tendons | Finger. |
| t. Flexor Profundus Digitorum | 19. Palmar Digital Branch to Ring |
| u. Its Tendons | Finger. |
| v. Palmaris Brevis | 20. Third Digital Branch. |
| w. Anterior Annular Ligament | 21. Fourth Digital Branch. |
| x. Opponens Pollicis | 22. Cutaneous Branch. |
| y. Abductor Pollicis | 23. Bifurcation of Digital Branches. |
| z. Flexor Brevis Pollicis | 24, 28. Digital Branches of Ulnar |
| a. Adductor Pollicis | Artery. |
| β. Interossei | 25, 29. Digital Branches of Radial |
| γ. Flexor Brevis Minimi Digiti | Artery. |
| δ. Abductor Minimi Digiti | 30. Branches to Dorsum of Fingers. |
| 1. Brachial Artery. | 31. Arch formed at last Phalanx by |
| 2. Deep Ulnar Recurrent. | Digital Branches. |

MUSCLES.

FIG. II. DEEP ARTERIES OF FOREARM AND HAND.

- | | |
|------------------------------------|------------------------------------|
| a. Subanconeus Muscle. | c. Extensor Carpi Radialis Muscle. |
| b. Internal Inter-muscular Septum. | f. Tendon of Biceps. |
| c. Brachialis Anticus Muscle. | g. Supinator Brevis Muscle. |
| d. Pronator Radii Teres Muscle. | h. Flexor Carpi Radialis Longior. |

- | | |
|---|---|
| <ul style="list-style-type: none"> <i>i.</i> Flexor Carpi Radialis Brevior. <i>k.</i> Tendon of Supinator Longus. <i>m.</i> Flexor Longus Pollicis. <i>n.</i> Pronator Quadratus. <i>o.</i> Interosseous Ligament. <i>p.</i> Tendon of Triceps. <i>q.</i> Tendon of Flexor Carpi Ulnaris. <i>r.</i> Anterior Annular Ligament. <i>s. v.</i> Interossei. <i>w.</i> Adductor Minimi Digiti Muscle. <i>x.</i> Abductor Minimi Digiti " <ul style="list-style-type: none"> 1. Brachial Artery. 2. Posterior Ulnar Recurrent. 3. Branch to Brachialis Anticus. 4. Radial Artery. 5. Radial Recurrent. 6. Branch to Capsular Ligament. 7. Ulnar Artery. 8. Anterior Ulnar Recurrent. 9. Branches to the Flexor Muscles. 10. Branch to Pronator Quadratus. 11. Branch to Palmar Arch. 12. Superficialis Volæ. 13. Radial Artery. 14. Interosseous Arteries. 15. Perforating Branch. | <ul style="list-style-type: none"> 16. Interosseous Artery passing behind Interosseous Membrane. 17. Branches of Ulnar to Rete Carpi Volare. 18. Ulnar forming Superficial Palmar Arch. 19. Deep Palmar Arch. 20. Princeps Pollicis. 21. Its External Branch. 22. Its Internal Branch. [es.] 23, 24. Anastomoses of these Branch- 25. Radialis Indicis. 26. Palmar Interosseous. 27. Perforating Branches. 28. Anastomoses with Digital Branches. 29. Digital Branch to little Finger. 30. Digital Palmar Branches. 31, 33, 35. Ulnar Digital Branches. 32, 34, 36. Radial Digital Branches. 37. Their Anastomoses on the first Phalanx. 38. Their Anastomoses on the second Phalanx. 39. Their Anastomoses on the Ungual Phalanx. |
|---|---|

FIG. III. FOREARM AND HAND. DORSAL ASPECT.

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|--|---|
| <ul style="list-style-type: none"> <i>a.</i> Radius. <i>b.</i> Ulna. <i>c.</i> Interosseous Ligament. <i>d.</i> Posterior Carpal Ligament. <i>e.</i> Dorsal Interossei. <i>f.</i> Adductor Pollicis. <i>g.</i> Extensor Longus Pollicis. <i>h.</i> Tendons of Extensor Communis Digitorum. <ul style="list-style-type: none"> 1. Posterior Interosseous Artery. 2. Branches to Rete Carpi Dorsale. 3. Dorsal Branch of Radial. | <ul style="list-style-type: none"> 4. Branches to Dorsal Surface of Carpus. 5. Dorsalis Pollicis—Radial Side. 6. Same—Ulnar Side. 7, 12, 14, 16. Radial, Dorsal, Digital Branches. 8. Ulnar, Dorsal, Carpal Branch. 9. Perforantes. 10. Dorsal Interosseous. 11, 13, 15, 17. Ulnar, Dorsal, Digital Branches. |
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PLATES XV AND XVI.

ARTERIES OF THE THORAX. BACK VIEW OF SECTION OF SAME.

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|---|---|
| <ul style="list-style-type: none"> <i>a.</i> Frontal Bone. <i>b.</i> Frontal Ridge. | <ul style="list-style-type: none"> <i>c.</i> Ethmoidal Bone. <i>d.</i> Olfactory Nerve. |
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- | | |
|---|------------------------------|
| <i>e.</i> Sella Turcica. | <i>δ.</i> Liver. |
| <i>f.</i> Optic Nerve. | 1. Thoracic Aorta. |
| <i>g, g.</i> Lesser Wings of Sphenoid Bone. | 2. Left Subclavian. |
| <i>h, h.</i> Greater Wings of Sphenoid Bone. | 3. Vertebral. |
| <i>i.</i> Petrous Portion of Temporal. | 4. Basilar. |
| <i>k.</i> Motor Oculi Nerve. | 5. Anterior Spinal. |
| <i>l.</i> Trochlearis “ | 6. Posterior Cerebellar. |
| <i>m.</i> Trifacial “ | 7. Auditory Branch. |
| <i>n.</i> Abducens “ | 8. Superior Cerebellar. |
| <i>o.</i> Petrous Portion of Temporal Bone. | 9. Posterior Cerebral. |
| <i>p.</i> Facial Nerve. | 10. Posterior communicating. |
| <i>q.</i> Auditory Nerve. | 11. Internal Carotid. |
| <i>r.</i> Glosso-pharyngeus Nerve. | 12. Middle Cerebral. |
| <i>s.</i> Pneumogastric “ | 13. Anterior communicating. |
| <i>t.</i> Nervus Accessorius Willisii. | 14. Anterior Cerebral. |
| <i>u.</i> Hypo-glossal. | 15. Inferior Thyroid. |
| <i>U</i> Spinal Cord. | 16. Common Carotid. |
| <i>v.</i> Posterior Roots of Cervical Nerves. | 17. Superior Intercostal. |
| <i>w.</i> Their Ganglia. | 18. Aortic Intercostals. |
| <i>x.</i> Phrenic Nerve. | 19. Abdominal Aorta. |
| <i>y.</i> Brachial Plexus. | 20. Lumbar Arteries. |
| <i>z.</i> Atlas. | 22. Renal Arteries. |
| <i>a.</i> Ribs. | 22. Iliac Arteries. |
| <i>β.</i> Intercostal Muscles. | 23. Inferior Vena Cava. |
| <i>γ.</i> Lungs. | 24. Renal Veins. |
| <i>δ.</i> Œsophagus. | 25. Intercostal Veins. |
| <i>ε.</i> Diaphragm. | 26. Vena Azygos Major. |
| <i>ζ.</i> Kidneys. | 27. Vena Azygos Minor. |
| <i>η.</i> Ureters. | 28. Thoracic Duct. |

PLATES XVII AND XVIII.

ARTERIES OF THE HEAD AND NECK. POSTERIOR ASPECT.

- | | |
|---|--------------------------------------|
| <i>a.</i> Frontal Bone. | <i>o.</i> Velum Pendulum Palati. |
| <i>b.</i> Eye. | <i>p.</i> Uvula. |
| <i>c.</i> Lachrymal Gland. | <i>q.</i> External Pterygoid Muscle. |
| <i>d.</i> Rectus Inferior Muscle. | <i>r.</i> Parotid Gland. |
| <i>e, g.</i> Optic Nerve. | <i>s.</i> Internal Pterygoid Muscle. |
| <i>f.</i> Optic Commisure. | <i>t.</i> Levator Palati. |
| <i>h.</i> Petrous portion of Temporal Bone. | <i>u.</i> Palato-pharyngeus. |
| <i>i.</i> Trifacial Nerve. | <i>v.</i> Temporal Muscle. |
| <i>k.</i> Trochlearis. | <i>w.</i> Masseter. |
| <i>l.</i> Facial Nerve. | <i>x.</i> Inferior Maxillary Bone. |
| <i>m.</i> Auditory Nerve. | <i>y.</i> Tongue. |
| <i>n.</i> Posterior Nares. | <i>z.</i> Epiglottis. |

- | | |
|---|---|
| <ul style="list-style-type: none"> <i>α</i>. Arytænoid Cartilages. <i>β</i>. Greater Cornua of Hyoid Bone. <i>γ</i>. Arytænoideus Muscle. <i>δ</i>. Cricoid Cartilage. <i>ε</i>. Thyroid Cartilage. <i>ζ</i>. Trachea. <i>η</i>. Thyroid Gland. <i>θ</i>. Bronchi. <i>ι</i>. Lungs. <i>κ</i>. Left Auricle. <i>λ</i>. Left Ventricle. <ul style="list-style-type: none"> 1. Ascending Aorta. 2. Arch of Aorta. 3. Innominate Artery. 4. Right Common Carotid. 5. External Carotid. 6. Internal Carotid. 7. Ophthalmic. 8. Middle Cerebral. 9. Anterior communicating. 8, 9, 16, 17. Circle of Willis. 10. Anterior Cerebral. | <ul style="list-style-type: none"> 11. Left Common Carotid. 12. Right Subclavian. 13. Left Subclavian. 14. Vertebral 15. Basilar. 16. Posterior Cerebral. 17. Posterior communicating. 18. Inferior Thyroid. 19. Cervicalis Ascendens. 20. Superficial Cervical. 21. External Carotid. 22, 23. Muscular Branches. 24. Internal Maxillary. 25. Pulmonary Artery. 26. Pulmonary Branches. 27. Pulmonary Veins. 28. Internal Jugular Vein. 29. Superior Vena Cava. 30. Inferior Vena Cava. 31. Coronary Veins. 32. Coronary Arteries. |
|---|---|

PLATES XIX AND XX.

ABDOMINAL AORTA AND BRANCHES.

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|--|---|
| <ul style="list-style-type: none"> <i>a</i>. Xiphoid Cartilage. <i>b, c</i>. Cartilages of Seventh and Eight Ribs. <i>d</i>. Costo-xiphoid Ligament. <i>c</i>. Crura of Diaphragm. <i>f</i>. Their Junction. <i>g, h</i>. Central Tendon of Diaphragm. <i>i</i>. Opening for Vena Cava. <i>k</i>. Inferior Vena Cava. <i>l</i>. Œsophageal Opening. <i>m</i>. Œsophagus. <i>n</i>. Psoas Magnus. <i>o</i>. Psoas Parvus. <i>p</i>. Quadratus Lumborum. <i>q</i>. Transversalis Abdominis. <i>r</i>. Rectus Abdominis. <i>s</i>. Iliacus. <i>t</i>. Kidney. <i>u</i>. Supra-renal Capsule. <i>v</i>. Pelvis of Kidney. | <ul style="list-style-type: none"> <i>w</i>. Ureter. <i>x</i>. Bladder. <i>y</i>. Urachus. <i>z</i>. Rectum. <i>a</i>. Vas Deferens. <i>β</i>. Internal Inguinal Ring. <i>γ</i>. Sacrum. <i>δ</i>. Last Lumbar Vertebra. <i>ε</i>. Spinal Column. <i>ζ</i>. Ilium. <ul style="list-style-type: none"> 1. Abdominal Aorta. 2. Cœliac Axis. 3. Inferior Phrenic. 4. Left Phrenic. 5. Branch to the Diaphragm. 6. Supra-renal Artery—Left Side. 7. Œsophageal Branch. 8. Anterior Branches of Phrenic. 9. Right Phrenic. [phragm. 10. Branches to the Crura of Dia- |
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|--|--|
| 11. Supra-renal Artery—Right Side. | 28. Sacra Media. |
| 12. Ramifications of the Phrenic Arteries. | 29. Fifth Lumbar Artery. |
| 13. Branches to Vena Cava. | 30. Iliac Artery. |
| 14. Gastric. | 31. Internal Iliac. |
| 15. Hepatic. | 32. External Iliac. |
| 16. Splenic. | 33. Posterior Trunk of Internal Iliac. |
| 17. Superior Mesenteric. | 34. Lateral Sacral. |
| 18. Supra-renal Branch. | 35. Obturator. |
| 19. Renal. | 36. Sciatic. |
| 20. Spermatic. | 37. Right Epigastric. |
| 21. Inferior Mesenteric. | 38. Left Epigastric. |
| 22. Colica Sinistra. | 39. Spermatic Branch. |
| 23. Sigmoid. | 40. Distribution to Abdominal Muscles. |
| 24. Superior Hemorrhoidal. | 41. Circumflex Iliac. |
| 25, 26, 27. Lumbar Arteries. | 42. Anastomoses with Ilio-lumbar. |

PLATES XXI AND XXII.

ARTERIES OF THE STOMACH.

- | | |
|---------------------------------|--------------------------------------|
| a. Crura of the Diaphragm. | 7. The Pyloric Branch. |
| b. Œsophagus. | 8. Hepatic Artery. |
| c. Cardiac End of Stomach. | 9. Gastro-Duodenalis. |
| d. Pyloric End of Stomach. | 10. Pancreatic Branch. |
| e. Pyloric Valve. | 11. Pancreatico-duodenalis. |
| f. Duodenum. | 12. Gastro-epiploica Dextra. |
| g. Pancreas. | 13. Pyloric Branch. |
| h. Spleen. | 14. Gastric Branches. |
| i. Hilus. | 15. Branches to the Omentum. |
| k. Liver. | 16. Hepatic Artery. |
| l. Round Ligament of Liver. | 17. Cystic. |
| m. Suspensory Ligament. | 18. Splenic. |
| n. Gall Bladder. | 19. Pancreatic Branches. |
| o. Its Cervix. | 20. Gastro-Epiploica Sinistra. |
| p. Ductus Communis Choledochus. | 21. Its Inosculation with 12. |
| q. Vena Portæ. | 22. Vasa Brevia. |
| 1. Abdominal Aorta. | 23. Splenic Branches. |
| 2. Cœliac Axis. | 24. Superior Mesenteric. |
| 3. Phrenic. | 25. Inferior Pancreatico-duodenalis. |
| 4. Gastric. | 26. Anastomosis of 25 with 11. |
| 5. Œsophageal Branch. | 27. Inferior Mesenteric. |
| 6. Its Anastomosis with 7. | |

FIG. II.

- | | |
|---------------|----------------|
| a. Diaphragm. | c. Right Lobe. |
| b. Liver. | d. Left Lobe. |

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|---|--|
| <ul style="list-style-type: none"> <i>e.</i> Lobus Spigelii. <i>f.</i> Lobus Quadratus. <i>g.</i> Hepatic Duct. <i>h.</i> Gall Bladder. <i>i.</i> Cystic Duct. <i>k.</i> Ductus Communis Choledochus. <i>l.</i> Vena Portæ. <i>m.</i> Œsophagus. <i>n.</i> Stomach. <i>o.</i> Œsophageal Opening. <i>p.</i> Cardiac End of Stomach. <i>q.</i> Pyloric End of Stomach. <i>r.</i> Pylorus. <i>s.</i> Duodenum. <i>t.</i> Spleen. 1. Abdominal Aorta. 2. Inferior Phrenic. 3. Cœliac Axis. 4. Its Division. | <ul style="list-style-type: none"> 5. Gastric Artery. 6. Œsophageal Branch. 7. Gastric. 8. Branches to Cardiac End of Stomach. 9. Hepatic Artery. 10. Gastro-duodenalis. 11. Gastro-epiploica Dextra. 12. Duodenal Branch. 13. Gastric Branches. 14. Branches to Omentum. 15. Pyloric Branch. 16. Pyloric Artery. 17. Hepatic Artery. 18, 19, 20. Division of Hepatic Arteries before entering the liver. 21. Cystic Artery. 22. Splenic Artery. 23. Gastro-epiploica Sinistra. |
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PLATES XXIII AND XXIV.

INTESTINAL ARTERIES.

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| <ul style="list-style-type: none"> <i>a.</i> Pancreas. <i>b.</i> Duodenum. <i>c.</i> Jejunum and Ileum. <i>d.</i> Ascending Colon. <i>e.</i> Transverse Colon. <i>f.</i> Descending Colon. <i>g.</i> Sigmoid Flexure. <i>h.</i> Rectum. <i>i.</i> Transverse Mesocolon. <i>k.</i> Descending Mesocolon. <i>l.</i> Crest of Ilium. <i>m.</i> Anterior Superior Spine of Ilium. 1. Superior Mesenteric Artery. 2. Inferior Pancreatico-duodenalis. 3. Superier Pancreatico-duodenalis. | <ul style="list-style-type: none"> 4. Colica Media. 5. Anastomoses with Colica Dextra. 6. Anastomoses with Colica Sinistra. 7. Vasa Intestini Tenuis. 8. Abdominal Aorta. 9. Left Renal Artery. 10. Spermatic Artery. 11. Lumbar Arteries. 12. Iliac Arteries. 13. Inferior Mesenteric. 14. Colica Sinistra. 15. Ascending Branch. 16. Descending Branch. 17, 19. Superior Hemorrhoidal. 18. Sigmoid. |
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PLATES XXV AND XXVI.

SUPERIOR MESENTERIC ARTERY.

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| <ul style="list-style-type: none"> <i>a.</i> Pancreas. <i>b.</i> Duodenum. <i>c.</i> Jejunum and Ileum. <i>d.</i> Ileo-cæcal Valve. | <ul style="list-style-type: none"> <i>e.</i> Cæcum. <i>f.</i> Vermiform Appendix. <i>g.</i> Ascending Colon. <i>h.</i> Hepatic Flexure. |
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| <ul style="list-style-type: none"> <i>i.</i> Transverse Colon. <i>k.</i> Splenic Flexure. <i>l.</i> Descending Colon. <i>m.</i> Anterior Muscular Band of Colon. <i>n.</i> Mesentery. 1 to 6. Same as preceding plates. 7. Ileo-colic. 8. Colica Dextra. 9. Ileo-colic. | <ul style="list-style-type: none"> 10. Cæcal Branches. 11. Branch to Vermiform Appendix. 12. Ileac Branch of Ileo-colic. 13. Anastomoses with Intestini Tenuis. 14. Vasa Intestini Tenuis. 15, 16, 17. Arches formed by Anastomoses of 14. 18. Intestinal Branches. |
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PLATES XXVII AND XXVIII.

PELVIC ARTERIES IN THE MALE.

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| <ul style="list-style-type: none"> <i>a.</i> Lumbar Vertebrae. <i>b.</i> Sacrum. <i>c.</i> Coccyx. <i>d.</i> Symphysis Pubis. <i>e.</i> Longissimus Dorsi <i>f.</i> Gluteus Magnus <i>g.</i> Transversalis <i>h.</i> Rectus <i>i.</i> Iliacus <i>k.</i> Psoas Magnus <i>l.</i> Psoas Parvus <i>m.</i> Pyriformis. <i>n.</i> Levator Ani <i>o.</i> Spinal Canal. <i>p.</i> Obturator Nerve. <i>q.</i> Fifth Lumbar Nerve. <i>r.</i> First <i>s.</i> Second <i>t.</i> Third <i>u.</i> Bladder. <i>v.</i> Ureter. <i>w.</i> Vas Deferens. <i>x.</i> Vesicula Seminales. <i>y.</i> Rectum. 1. Abdominal Aorta. 2. Inferior Mesenteric. 3. Lumbar. 4. Sacra Media. 5. Iliac Arteries. 6. Internal Iliac. 7. Posterior Trunk. 8. Ilio-lumbar. | <ul style="list-style-type: none"> 9. Iliac Branch. 10. Psoas, or Lumbar Branch. 11. Anastomosis with Circumflex Ilii. 12. Lateral Sacral. 13. Branch to Levator Ani. 14. Obturator Artery. 15. Branch to Obturator Internus. 16. Anastomosis with 38. 17. Gluteal Artery. 18. Anterior Trunk of Internal Iliac. 19. Superior Vesical. 20. Obliterated Hypogastric Artery. 21. Middle Vesical. 22. Inferior Vesical. 23. Branch to Vesicula Seminales. 24. Internal Pudic. 25. Middle Hemorrhoidal. 26. Branch to Levator Ani. 27. Branch to Vesicula Seminales. 28. Branches to Rectum. 29. Sciatic Artery. 30. Branch to Pyriformis. 31. External Iliac. 32. Circumflex Iliac. 33. Branches to Iliacus. 34. Branches to Transversalis. 35. Anastomosis with Ilio-lumbar. 36. Epigastric. 37. Obturator Branch. 38. Anastomosis of 37, with 16 and 9. 39. Cremasteric Branch. |
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PLATES XXIX AND XXX.

PELVIC BRANCHES IN THE FEMALE.

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| <i>a.</i> Lumbar Vertebrae. | 6. Last Lumbar Artery. |
| <i>b.</i> Sacrum. | 7. Right Iliac. |
| <i>c.</i> Coccyx. | 8. Internal Iliac. |
| <i>d.</i> Symphysis Pubis. | 9. Lateral Sacral. |
| <i>e.</i> Horizontal Ramus of Pubes. | 10. Ilio-lumbar. |
| <i>f.</i> Longissimus Dorsi | 11. Lumbar Branch. |
| <i>g.</i> Gluteus Maximus | 12. Obturator. |
| <i>h.</i> Transversalis | 13. Branch to Obturator Internus. |
| <i>i.</i> Internal Inguinal Ring. | 14. Anastomosis with Epigastric. |
| <i>k.</i> Psoas Magnus | 15. Gluteal Artery. |
| <i>l.</i> Iliacus | 16. Superior Vesical. |
| <i>m.</i> Obturator Internus | 17. Obliterated Hypogastric Artery. |
| <i>n.</i> Pyriformis | 18. Vesical Arteries. |
| <i>o.</i> Levator Ani | 19. Uterine Arteries. |
| <i>p, q, r, s, t, u.</i> Same as preceding plates. | 20. Vaginal Branches. |
| <i>v.</i> Vagina. | 21. Uterine Branch. |
| <i>w.</i> Uterus. | 22. Internal Pudic. |
| <i>x.</i> Round Ligament of Uterus. | 23. Middle Hemorrhoidal. |
| <i>y.</i> Fallopian Tube. | 24. Branch to Levator Ani. |
| <i>z.</i> Fimbriated Extremity. | 25. Sciatic Artery. |
| <i>a.</i> Ovary. | 26. Sacral Branch. |
| <i>b.</i> Rectum. | 27. Right External Iliac. |
| 1. Abdominal Aorta. | 28. Circumflex Iliac. |
| 2. Inferior Mesenteric Artery. | 29. Iliac Branch. |
| 3. Left Common Iliac. | 30. Anastomosis with Ilio-lumbar. |
| 4. Lumbar. | 31. Epigastric. |
| 5. Middle Sacral. | 32. Pubic Branch. |
| | 33. Muscular Branch. |

PLATES XXXI AND XXXII.

ARTERIES OF THE THIGH. ANTERIOR ASPECT.

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|------------------------------------|----------------------------------|
| <i>a, b.</i> External Oblique. | <i>n.</i> Adductor Magnus. |
| <i>c.</i> Rectus Abdominis. | <i>o.</i> Adductor Longus. |
| <i>d.</i> Sheath of Rectus. | <i>p.</i> Adductor Brevis. |
| <i>e.</i> Pyramidalis. | <i>q.</i> Pectineus. |
| <i>f.</i> External Abdominal Ring. | <i>r.</i> Vastus Externus. |
| <i>g.</i> Spermatic Cord. | <i>s.</i> Crureus. |
| <i>h.</i> Poupart's Ligament. | <i>t.</i> Rectus Femoris. |
| <i>i.</i> Crural Ring. | <i>u.</i> Vastus Externus. |
| <i>k.</i> Sartorius. | <i>v.</i> Tensor Vaginæ Femoris. |
| <i>l.</i> Gracilis. | <i>w.</i> Iliacus. |
| <i>m.</i> Semi-membranosus. | <i>x.</i> Psoas. |

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| <p>y. Penis.</p> <ol style="list-style-type: none"> 1. Femoral Artery. 2. Epigastric. 3. Circumflex Iliac. [Branches. 4 and 5. Cutaneous and Muscular 6. Superficial Femoral. 7, 8. External Pudic. 9 to 17. Muscular Branches. 18. Profunda Femoris. 19. Cutaneous Branch. 20. Muscular Branch. 21. Internal Circumflex. 22. Iliac Branch. 23. Superficial Circumflex Iliac. 24. Obturator. 25, 26. Anastomoses with Internal Circumflex. 27 to 29. Muscular Branches. 30. Scrotal Branch. | <ol style="list-style-type: none"> 31, 34. Branches to Adductors. 35. Deep Femoral. 36. Branch to Sartorius. 37. Superior Perforating. 38. External Circumflex. 39. Ascending Muscular Branch. 40, 41. Perforating Arteries. 42. Branch to Adductors. 43. Ramifications of Profunda. 44. Obturator. 45. Superficial Muscular Branch. 46. Anastomosis with superficial Femoral. 47. Anastomoses with Epigastric. 48. Internal Branch of Obturator. 49. Muscular Branch to Abdomen. 50. Muscular Branch. 51. Anastomoses of 44 with 21. 52. Dorsalis Penis. |
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PLATES XXXIII AND XXXIV.

ARTERIES OF THE THIGH AND LEG. BACK VIEW.

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|---|---|---|
| <ol style="list-style-type: none"> a. Ilium. b. Trochanter Major. c. Tuberosity of Ischium. d. Spine of Ischium. e. Great Sacro-sciatic Ligament. f. Femur. g. Gluteus Maximus h. Gluteus Medius i. Gluteus Minimus k. Piriformis l. Gemelli m, n. Obturator Internus o. Quadratus Femoris p. Crus Penis q. Transverse Perineal r. Levator Ani s, t. Biceps Femoris s. Long head. t. Short head. u. Adductor Magnus v. Semi-membranosus w. Semi-tendinosus x. Vastus Externus y. Plantaris | <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Muscles.</p> | <ol style="list-style-type: none"> z. Internal Condyle. a. Tendon of Gracilis β. Tendon of Sartorius. 1. Gluteal Artery. 2. Internal Pudic. 3. Perineal. 4. Branch to External Sphincter. 5. Artery of the Bulb. 6. Deep Branch. 7. Perineal Branches. 8. Branch to Ischium. 9. Branch to Levator Ani. 10. Anastomoses with Circumflux Arteries. 11. Branches of Sciatic, which join with Circumflux Arteries. 12. Sciatic Branch to Gluteal Muscles. 13. Anastomosis with Superior Perforating. 14. Internal Circumflex. [Pudic. 15, 16. Anastomosis with Internal 17. Muscular Branch. |
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| 18, 19. Superior Perforating. | 27, 28. Branches of Fourth Perforating. |
| 20. Muscular Branch. | 29. Femoral Artery. [ating. |
| 21. Its Anastomosis with 18. | 30. Popliteal Artery. |
| 22, 24. Perforating Branches. | 31. Superior Internal Articular. |
| 25. Muscular Branches. | 32. Muscular Branch. |
| 26. Branch of Third Perforating. | 33. External Posterior Articular. |

FIG. II.

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|---------------------------------|-----------------------------|
| a. Gastrocnemius Muscle. | 4. Cutaneous. |
| b. Tendo Achillis. | 5. Peroneal. |
| c. Tendon of Peroneus Longus. | 6. Anastomosis with 4. |
| 1. Popliteal Artery. | 7. Anastomosis with 8. |
| 2. Muscular Branch. | 8. Posterior Tibial Artery. |
| 3. Inferior Internal Articular. | 9. Branches to Os Calcis. |

FIGS. III AND IV. ARTERIÆ HELICINÆ OF THE CORPUS CAVERNOSUM PENIS.

Fig. 3. Natural Position.

Fig. 4. Injected.

PLATES XXXV AND XXXVI.

ARTERIES OF THE KNEE JOINT.

FIG. I. INTERNAL ASPECT OF KNEE JOINT.

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|---------------------------------|------------|---|
| a. Semi-membranosus | } MUSCLES. | 4. Anastomosis with Inferior Articular. |
| b. Gracilis | | 5. Internal Superior Articular. |
| c. Sartorius | | 6. Nutrient Branch. |
| d. Tendon of Adductor Magnus | | 7. Branch to Internal Condyle. |
| e, f. Vastus Internus | | 8. Continuation of 5 to Patella. |
| g. Tendon of Semitendinosus | | 9. Anastomosis of Internal Articular Arteries. |
| h. Gastrocnemius | | 10. Anastomosis with External Articular Arteries. |
| i. Patella. | | 11. Inferior Internal Articular. |
| k. Fascia Lata. | | 12. Tibial Branch. |
| 1. Popliteal Artery. | | |
| 2. Internal Superior Articular. | | |
| 3. Muscular Branch. | | |

FIG. II. EXTERNAL ASPECT OF KNEE.

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| a, b. Biceps Muscle. | } MUSCLES. | 2. Anastomosing Branch of Inferior Perforating. |
| c. Vastus Externus. | | 3, 4. Branches to the Condyles. |
| d. External Lateral Ligament. | | 5. Superficial Branch of 1. [tery. |
| e. Aponeurosis. | | 6. Inferior External Articular Artery. |
| f. Opened Capsular Ligament. | | 7. Branch to External Condyle. |
| g. Gastrocnemius. | | 8. Anastomoses with Internal Articular Arteries. |
| h. Soleus | | 9. Anterior Tibial Artery. |
| i. Peroneus Longus | | 10. Recurrent Tibial. |
| k. Extensor Longus Digitorum | | 11. Branch to Ligaments and Tibia. |
| l. Tibialis Anticus Muscle. [tery. | | |
| 1. Superior External Articular Artery. | | |

FIG. III. ANTERIOR ASPECT OF KNEE JOINT.

<i>a.</i> Patella.		<i>k.</i> Tibialis Anticus Muscle.
<i>b.</i> Ligamentum Patellæ.		<i>l.</i> Tibia.
<i>c.</i> Vastus Internus	} MUSCLES.	1. Anterior Tibial Artery.
<i>d.</i> Rectus Femoris		2. Branches to Ligaments of Joints.
<i>e.</i> Vastus Externus		3. Internal Inferior Articular.
<i>f, g.</i> Biceps.		4. Internal Superior Articular.
<i>h.</i> Peroneus Longus		5. External Superior Articular.
<i>i.</i> Extensor Longus Digitorum		

FIG. IV. POSTERIOR ASPECT OF KNEE JOINT.

<i>a.</i> Biceps	} Muscles.	3. Branch to Gastrocnemius (sural)
<i>b.</i> Semi-membranosus		4. Internal Superior Articular.
<i>c.</i> Semi-tendinosus		5. Anastomosis with 6.
<i>d.</i> Gastrocnemius		6. Branch to Gastrocnemius (sural)
<i>e.</i> Plantaris		7. Internal Inferior Articular.
<i>f.</i> Soleus		8, 9. Sural.
<i>g.</i> Popliteus		10. Division of Tibialis Anterior and Peroneus.
1. Popliteal Artery.		11. Posterior Tibial Artery.
2. Superior External Articular.		

PLATES XXXVII AND XXXVIII.

ARTERIES OF THE CALF AND PLANTAR SURFACE OF THE FOOT.

FIG. I.

<i>a.</i> Tibia.		10. Dorsalis Pedis Artery.
<i>b.</i> Gastrocnemius	} MUSCLES.	11, 12. Tarsal.
<i>c.</i> Tibialis Anticus		13. Metatarsal Interosseæ.
<i>d.</i> Extensor Longus Pollicis	} MUSCLES.	14. Division into Dorsal Pollicis and Anastomotic Branch, and into 15.
<i>e.</i> Interosseous Ligament.		15. Second Dorsal Collateral Branch
<i>f.</i> Extensor Longus Digitorum		16. Internal Branch of Dorsalis Hallucis.
<i>g.</i> Peroneus Longus		17. Second Interosseous.
<i>h.</i> Extensor Brevis Digitorum		18. Second Digital.
1. Anterior Tibial Artery.		19. Second Dorsal Collateral.
2. Branch to Knee Joint.		20. Third Digital.
3 to 6. Muscular Branches.		21 to 26. Digital Arteries of the Toes.
7. Internal Malleolar.		27. Dorsal Arch.
8. External Malleolar.		
9. Anastomosis with Dorsal Arteries of Foot.		

FIG. II.

<i>a.</i> Plantaris	} Muscles.	<i>e.</i> Flexor Longus Hallucis	} Muscles.
<i>b.</i> Soleus		<i>f.</i> Flexor Longus Digitorum	
<i>c.</i> Popliteus		<i>g.</i> Tendon of Peroneus Brevis	
<i>d.</i> Peroneus Longus		<i>h.</i> Tendo Achillis	

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| 1. Popliteal Artery. | 13. Posterior Tibial. |
| 2. Origin of Peroneal and Anterior Tibial. | 14 to 17. Muscular Branches. |
| 3, 4. Sural Branches. | 18. Branch to Nerves. |
| 5. Anterior Tibial. | 19 to 21. Cutaneous Branches and Anastomosis. |
| 6. Peroneal. | 22 to 23. Anastomosis with Peroneal. |
| 7, 8. Muscular Branch. | 24. Anastomosis with Tibialis Antica. |
| 9. Cutaneous Branch of Peroneal. | 25. Anterior Tibial. |
| 10, 11. Anastomosis with Posterior Tibial. | 26, 27, 28. Muscular Branches. |
| 12. Termination of Peroneal. | |

FIG. III. PLANTAR SURFACE OF THE FOOT.

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| a. Calcaneum. | 9. Internal Plantar. |
| b, c. Astragalus. | 10. Deep Branch. |
| d. Scaphoid. | 11. Branch to Plantar Aponeurosis. |
| e. First Cuneiform. | 12. Anastomosis with 7. |
| f. Metatarsal Bone of Great Toe. | 13. External Plantar Artery. |
| g, h. First and Second Phalanx of Great Toe. | 14. Calcanean Branch. |
| i. Fifth Metatarsal Bone. | 15. Anastomosis with Peroneal. |
| k. Transversus Pedis. [rum. | 19, 22, 25, 27, 29. Interosseous. |
| l. Tendon of Flexor Longus Digito- | 20. External Digital Branch of Little Toe. |
| m, s. Interossei. | 21. Beginning of Plantar Arch. |
| t. Long Calcaneo-cuboid Ligament. | 23. Anastomosis with Vessels of Little Toe. |
| u. Short Calcaneo-cuboid Ligament. | 24, 28, 30, 35. Division of Interossei into Internal and External Digital. |
| v. Interosseous Ligament. | 26. Muscular Branch. |
| w. Origin of Abductor Pollicis. | 31. Plantar Arch. [ial. |
| 1. Posterior Tibial Artery. | 32. Anastomosis with Anterior Tib- |
| 2. Cutaneous Branch. | 33. Anastomosis with 11. |
| 3. Branch to Os Calcis. | 34. Internal Plantar Branch to Great Toe. |
| 4. Calcanean Branch. | |
| 5. Muscular Branch. | |
| 6. Internal Plantar Artery. | |
| 7. Communicating Branch. | |
| 8. Branch to the Plantar Ligaments. | |

PLATES XXXIX AND XL.

VEINS OF THE HEAD.

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|----------------------|------------------------------|
| a. Frontalis Muscle. | g. Orbicularis Palpebrarum. |
| b. Aponeurosis. | h. Compressor Naris. |
| c. Attolens Aurem. | i. Levator Labii Superioris. |
| d. Occipital Muscle. | k. Levator Anguli Oris. |
| e. Retrahens Aurem. | l. Orbicularis Oris. |
| f. Ear. | m. Depressor Anguli Oris. |

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| <p> <i>n.</i> Platysma Myoides.
 <i>o.</i> Internal Pterygoid.
 <i>p.</i> Digastric.
 <i>q.</i> Zygomatic Major.
 <i>r.</i> Steno's Duct. [moved.
 <i>s.</i> Zygomatic Process of Malar re-
 <i>t.</i> Temporal Muscle.
 <i>u.</i> Zygomatic Process of Temporal
 Bone removed.
 <i>v, w.</i> Sterno-cleido-mastoid.
 <i>x.</i> Splenius Capitis et Colli.
 <i>y.</i> Levator Anguli Scapulæ.
 <i>z.</i> Its Origin.
 <i>a.</i> Omo-hyoid.
 <i>β.</i> Scalenus Medius.
 <i>γ.</i> Scalenus Anticus.
 <i>δ.</i> Thyroid Gland.
 <i>ε.</i> Sterno-thyroid.
 <i>ζ.</i> Sterno-hyoid.
 <i>η.</i> Thyro-hyoid.
 <i>θ.</i> Thyroid Cartilage.
 <i>ι.</i> Cricoid Cartilage.
 1. Vena Cava Superior.
 2. Right Subclavian Vein.
 3. External Jugular.
 4. Anterior Jugular.
 5. Transverse Jugular.
 6. Cutaneous Vein.
 7. Mental. [ular.
 8. Anastomosis with External Jug-
 9. Submaxillary Branch.
 10. Anastomoses with Temporal Vein
 11. External Jugular.
 12. Anastomosis with Transversalis
 Colli.
 13. Muscular Branch.
 14. Anastomosis with Subclavian.
 15. Posterior External Jugular.
 16. Anastomosis with 8.
 17. Anastomosis with 3.
 18. Parotid Branch.
 19. Occipital.
 20. Anastomosis with Temporal.
 21. Transversalis Colli.
 22. Muscular Branch.
 23. Muscular Branch. </p> | <p> 24. Superficial Occipital.
 25. Internal Jugular.
 26. Superior Thyroid.
 27. Cerebral Portion of 25.
 28. Facial.
 29. Laryngeal.
 30. Facial.
 31. Submaxillary.
 32. Submental.
 33. Anastomosis with Labial Veins.
 34. Masseteric.
 35. Inferior Labial.
 36. Inferior Buccal.
 37. Middle Labial.
 38. Superior Buccal.
 39. Inferior Labial, Superior Branch
 40. Mental Plexus.
 41. Labial Plexus.
 42. Superior Labial Branch.
 43. Deep Branch of Facial.
 44. Superior Dental.
 45. Posterior Nasal.
 46. Ophthalmic.
 47. External Palpebral.
 48. Inferior Palpebral Plexus.
 49. Superior Labial.
 50. Superior Labial Plexus.
 51. Nasal.
 52. Inferior Palpebral.
 53. Nasal Branch.
 54. Nasal Plexus.
 55. Dorsalis Nasi.
 56. Frontal Vein.
 57. Dorsalis Nasi.
 58. Nasal Plexus.
 59. Anastomoses with Temporal.
 60. Supra-orbital.
 61. Superior Palpebral.
 62. Superior Palpebral Plexus.
 63. Supra-orbital.
 64. Anastomoses with Temporal.
 65. Temporo-maxillary.
 66. Parotid Branch.
 67. Muscular Branches.
 68. Posterior Auricular.
 69. Transverse Facial. </p> |
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| 70. Superficial Branch. | 87. External Branch. |
| 71. Deep Branch. | 88. Anastomosing Branch. |
| 72. Deep Temporal. | 89. Internal Branch. |
| 73. Superior Branch. | 90. Anastomosis with External Branch. |
| 74. Anastomoses with Anterior Articular. | 91. Anastomoses of Temporal Branches. |
| 75. Deep Branch of Temporal. | 92. Branches joining Deep Temporal. |
| 76. Inferior Maxillary. | 93. Anastomoses with Frontal Vein. |
| 77. Anastomoses with Buccal. | 94. Deep Temporal. |
| 78. Muscular Branches. | 95. Muscular Branches. |
| 79. Anastomoses with Transverse Facial. | 96. Superior Frontal. |
| 80. Temporal. | 97. Anastomosis with Supra-orbital. |
| 81, 82, 83. Muscular Branches. | 98. Common Carotid Artery. |
| 84. Anterior Articular. | 99. Superior Thyroid Artery |
| 85. Anterior Auricular. | 100. External Carotid Artery. |
| 86. Temporal. | |

PLATES XLI AND XLII.

VEINS OF NECK AND TRUNK.

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| <i>a.</i> Masseter. | <i>a.</i> Psoas Magnus. |
| <i>b.</i> Mylo-hyoides. | 1. Superior Vena Cava. |
| <i>c.</i> Os Hyoid. | 2. Vena Azygos. |
| <i>d.</i> Thyro-hyoid. | 3. Anastomosing Branch. |
| <i>e.</i> Thyroid Gland. | 4. Innominate. |
| <i>f.</i> Submaxillary Gland. | 5. Internal Mammary. |
| <i>g.</i> Trachea. | 6. Inferior Communicating. |
| <i>h.</i> Clavicle. | 7. Muscular Branch. |
| <i>i.</i> Deltoid. | 8. Vertebral. |
| <i>k.</i> Pectoralis Minor. | 9. Anterior Jugular. [ular. |
| <i>l.</i> Pectoralis Major. | 10. Anastomosis with External Jug. |
| <i>m.</i> Biceps. | 11. Cutaneous Branch. |
| <i>n.</i> Latissimus Dorsi. | 13. Inferior Thyroid. |
| <i>o.</i> Ribs. | 13, 14. Left External Jugular. |
| <i>p.</i> Intercostals. | 14. Right External Jugular. |
| <i>q.</i> Heart. | 15. Supra-scapular. |
| <i>r.</i> Left Auricle. | 16. Muscular Branch. |
| <i>s.</i> Right Auricle. | 17. Communicating Branch to Internal Jugular. |
| <i>t.</i> Apex. | 18, 19. Communicating Branches. |
| <i>u.</i> Diaphragm. | 20. Submental. |
| <i>v.</i> Œsophagus. | 21. Temporo-maxillary. |
| <i>w.</i> Kidneys. | 22. Internal Jugular. |
| <i>x.</i> Suprarenal Capsule. | 23. Facial. |
| <i>y.</i> Ureters. | 24. Subclavian. |
| <i>x.</i> Quadratus Lumborum. | |

- | | |
|--|------------------------------|
| 25. Cephalic. | 39. Pulmonary Artery. |
| 26. Junction of Posterior Circum-
flex and Subscapular. | 40. Left Pulmonary Artery. |
| 27. Brachial. | 41. Aorta. |
| 28. Basilic. | 42. Innominate Artery. |
| 29. Muscular Branch. | 43. Right Subclavian Artery. |
| 30. Greater Anterior Coronary. | 44. Right Common Carotid. |
| 31. Lesser Anterior Coronary. | 45. Superior Thyroid. |
| 32. Inferior Vena Cava. | 46. Left Common Carotid. |
| 33. Phrenic Branch. | 47. Left Subclavian. |
| 34. Hepatic. | 48. Abdominal Aorta. |
| 35. Renal. | 49. Celiac Axis. |
| 36. Suprarenal. | 50. Superior Mesenteric. |
| 37. Phrenic. | 51. Renal. |
| 38. Spermatic. | 52. Lumbar. |
| | 53. Inferior Mesenteric. |

PLATES XLIII AND XLIV.

VEINS OF THE ARM.

FIGS. I AND III.

- | | |
|--|----------------------------|
| <i>a.</i> Deltoid. | 5. Radial. |
| <i>b.</i> Pectoralis Major. | 6. Basilic. |
| <i>c.</i> Muscles of the Arm. [of Digit. | 7. Anastomosing Branches. |
| 1. Plexus of Veins on Palmar side | 8. Ulnar. Cephalic. |
| 2. Superficial Palmar Plexus. | 9. Median. |
| 3. Carpal Branches. | 10. Median Cephalic. |
| 4. Digital Veins of Thumb. | 11. Anastomosing Branches. |

FIGS. II AND IV. DEEP VEINS OF ARM.

- | | |
|---------------------------------------|--|
| <i>a.</i> Clavicle. | <i>s.</i> Supinator Longus. |
| <i>b.</i> Pectoralis Major. | <i>t.</i> Flexor Longus Pollicis. |
| <i>c.</i> Pectoralis Minor. | <i>u.</i> Tendon of Flexor Digitorum. |
| <i>d.</i> Deltoid. | <i>v.</i> Abductor Minimi Digiti. |
| <i>e.</i> Latissimus Dorsi. | <i>w.</i> Adductor Pollicis. |
| <i>f.</i> Biceps—Short Head. | 1. Ungual Arch of Digital Veins. |
| <i>g.</i> Coraco-brachialis. | 2. Radial Palmar Digital Veins. |
| <i>h.</i> Biceps. | 3. Ulnar Digital Veins. |
| <i>i.</i> Its Long Head. | 4. Anastomoses with Dorsal Veins. |
| <i>k.</i> Long Head of Triceps. | 5. Digital Veins. |
| <i>l.</i> Flexor Longus Digitorum. | 6. Anastomoses with Deep Palmar
Arch. |
| <i>m.</i> Pronator Radii Teres. | 7. Superficial Palmar Arch. |
| <i>n.</i> Flexor Profundus Digitorum. | 8. Beginning of Radial Vein. |
| <i>o.</i> Its Tendon. | 9. Its Dorsal Branch. |
| <i>p.</i> Flexor Carpi Ulnaris. | 10. Radial Vein. |
| <i>q.</i> Pronator Quadratus. | 11. Muscular Branch. |
| <i>r.</i> Brachialis Anticus. | |

- | | |
|--|---|
| 12. Junction of Interosseous and Ulnar Vein. | 28. Brachial Veins. |
| 13. Ulnar Vein. | 29. Muscular Branch. |
| 14. Branches from the Little Finger. | 30. Anterior Circumflex. |
| 15. Dorsal Branch. | 31. Anastomosis with Basilic. |
| 16. 17. Muscular Branches. | 32. Basilic. |
| 18. Same as 12. | 33. Junction of 32 with Axillary Veins. |
| 19. Muscular Branch. | 34. Muscular Branch. |
| 20. Recurrent Ulnar Vein. [ous. | 35. Collateral Ulnar. |
| 21. Palmar Branches of Interosse- | 36. Muscular Branch. |
| 22. Anastomoses with Radial. | 37. Subscapular. |
| 23. Anastomoses with Ulnar. | 38. Cephalic. |
| 24. Internal Interosseous. | 39. Median. |
| 25. 26. Muscular Branches. | 40. Brachial Artery. |
| 27. Nutrient Vein of Radius. | 41. Radial Artery. |

PLATES XLV AND XLVI.

VEINS ON POSTERIOR ASPECT OF ARM.

FIGS. I AND II. SUPERFICIAL VEINS.

- | | | |
|---------------------------------------|------------|--------------------------------------|
| a. Clavicle | } Muscles. | 9. Carpal Veins of Dorsal Surface. |
| b. Deltoid | | 10. External Radial. |
| c. Pectoralis Minor | | 11. Anterior Veins of Forearm. |
| d. Pectoralis Major | | 12. Posterior Ulnar. |
| e. Coraco-brachialis | | 13. Anastomoses with Anterior Ulnar. |
| f. Triceps | | 14. Cephalic. |
| g. Brachial Facia. | | 15. Cutaneous Branches. |
| 1. Dorsal Plexus of Digital Veins. | | 16. Basilic. |
| 2. Radial Branches of Dorsal Digital. | | 17. Median. |
| 3. Ulnar Branches of Dorsal Digital. | | 18. Dorsal Branches of Cephalic. |
| 4. Anastomosing Branches to Palmar | | 19. Brachial. |
| 5. Dorsal Arch. | | 20. Anterior Circumflex. |
| 6. Dorsal Digital Branch of Thumb. | | 21. Subscapular. |
| 7. Vena Salvatella. | | 22. Axillary. |
| 8. Anastomoses with Deep Dorsal. | | |

FIGS. III AND IV. DEEP VEINS OF UPPER EXTREMITY.

- | | | |
|-----------------------|------------|---------------------------------|
| a. Scapula. | } Muscles. | k. Triceps Muscle. |
| b. Clavicle. | | l. Olecranon. |
| c. Neck of Humerus. | | m. Subanconeus Muscle. |
| d. Infra-spinatus | | n. Internal Condyle. |
| e. Teres Minor | | o. Extensor Communis Digitorum. |
| f. Supra-spinatus | | p. Ulna. |
| g. Deltoid | | q. Radius. |
| h. Triceps | | r. Interosseous Ligament. |
| i. Brachialis Anticus | | s. Supinator Brevis Muscle. |

- | | | | | |
|---|---|----------|--|--|
| <p><i>t.</i> Supinator Longus Muscfe.
 <i>u.</i> Extensor Carpi Radialis Longior.
 <i>v.</i> Extensor Carpi Radialis Brevior.
 <i>w.</i> Abductor Longus Pollicis
 <i>x.</i> Extensor Brevis Pollicis
 <i>y.</i> Extensor Indicis
 <i>z.</i> Abductor Minimi Digiti</p> | } | Muscles. | <p>1. Superficial Dorsal Digital Veins.
 2. Dorsal Interosseus.
 3, 4. Perforating Veins.
 5. Dorsal Branches of Radial.
 6. Branch to Dorsal Digital of Thumb.
 7. Deep Dorsal Plexus.
 8. Vena Salvatella.
 9. Dorsal Pollicis.
 10. Radial.</p> | <p>11. Anastomoses with 7.
 12. Anastomoses with 2,
 13. Anastomosis of Cephalic and Radial.
 14. Dorsal Branch of Interosseous.
 15. Anastomoses of Deep and Superficial Veins.
 16. Anastomosis with Cephalic.
 17, 18, 19. Muscular Branches.
 20. External Interosseous.
 21. Collateral Radial.
 22. Deep Brachial.
 23. Muscular Branches.
 24. Brachial.
 25. Posterior Circumflex.
 26. Basilic.
 27. Subscapularis.</p> |
|---|---|----------|--|--|

PLATES XLVII AND XLVIII.

SUPERFICIAL VEINS OF LOWER EXTREMITY.

FIG. I. INTERNAL SAPHENOUS.

- | | |
|---|---|
| <p>1. Branches from the Sole of the Foot.
 2. Internal Dorsal Digital Veins.
 3. External Dorsal Digital Veins.
 4. Superficial Metatarsals.
 5. Superficial Dorsal Arch.
 6. Beginning of Long Saphenous.
 7, 8. Internal and External Branches
 9. Long Saphenous Branch.</p> | <p>10. Anastomosis with Posterior Tibial Vein.
 11. Muscular Branches.
 12. Branch from the Knee Joint.
 13. Musculo-cutaneous Branch.
 14. External Pudic Branch.
 15. Crural Vein. [Vein.
 16. Termination of Long Saphenous
 17. Musculo-cutaneous Branch.</p> |
|---|---|

FIG. II. EXTERNAL SAPHENOUS VEIN.

- | | |
|---|--|
| <p>1 to 6. Same as Figure 1.
 7. Deep Communicating Branch.
 8. Beginning of Cutaneous Vein.
 9. External Saphenous.
 10. Anastomosis with Anterior Tibial.</p> | <p>11. Anastomosis with Internal Saphenous.
 12. Muscular Branches.
 13. Termination of External Saphenous.
 14. Musculo-cutaneous Branch.</p> |
|---|--|

FIG. III. VEINS OF DORSUM OF FOOT.

- | | |
|---|--|
| <p><i>a.</i> Tibia.
 <i>b.</i> Fibula.
 <i>c.</i> Crucial Ligament.
 <i>d.</i> Extensor Communis Digitorum.
 <i>e.</i> Extensor Longus Pollicis Muscfe.
 <i>f.</i> Tibialis Anticus Muscfe.</p> | <p>1 to 9. Same as Figure 1.
 10. Plexus on outer Malleolus.
 11. Deep Veins of the Dorsalis Pedis.
 12. Their Anastomoses.
 13. Anterior Tibial Vein.</p> |
|---|--|

FIG. IV. VEINS OF THE PLANTAR SURFACE OF FOOT.

- | | |
|---|--|
| <ul style="list-style-type: none"> a. Tibia. b. Fibula. c. Calcaneum. d. Long Calcaneo-cuboid Ligament. e. Interossei Muscles. f. Tendons of Flexor Longus Digitorum. 1, 2. Digital Plantar Veins. 3. Their Phalangeal Anastomoses. | <ul style="list-style-type: none"> 4. Plantar Interosseous. 5. External Plantar Vein. 6. Anastomosing Branch to Anterior Tibial. 7. Calcaneoid Branches. 8. Internal Plantar Vein. 9. Dorsal Cutaneous Branch. 10. Internal Malleolar Branch. 11. Posterior Tibial Vein. |
|---|--|

PLATES XLIX AND L.

FIG. I. ANTERIOR TIBIAL VEIN.

- | | |
|---|--|
| <ul style="list-style-type: none"> a. Tibia. b. External Malleolus. c. Tibialis Anticus Muscle. d. Extensor Communis Digitorum. e. Its Tendon. f. Extensor Longus Hallucis Muscle g. Tarsus. h. Abductor Minimi Digiti Muscle. 1. Superficial Digital Veins. 2. Deep Branches. 3. Branch to Sole of Foot. 4. Radices of Internal Saphenous. | <ul style="list-style-type: none"> 5. Interosseous Veins. 6. Perforating Branches. 7. Deep Dorsal Arch. 8. Anterior Tibial Vein. 9. Internal Malleolar Vein. 10. External Malleolar Vein. 11. Branch of Peroneal Vein. 12. Anastomosis with Anterior Tibial. 13. Anterior Tibial Veins. 14. Recurrent Tibial. 15. Anterior Tibial Artery. |
|---|--|

FIG. II. POSTERIOR TIBIAL AND PERONEAL VEINS.

- | | | |
|---|--|---|
| <ul style="list-style-type: none"> a. Gracilis b, c. Biceps Femoris d. Semi-membranosus e. Semi-tendinosus f. Gastrocnemius g. Plantaris h. Soleus i. Popliteus k. Tibialis Posticus l. Flexor Longus Hallucis m. Peroneus Longus n. External Malleolus. [itorum. o. Tendon of Flexor Communis Dig- p. Tendo Achillis. q. Calcaneum. 1. Peroneal Veins. [leolar. 2. Anastomosis with External Mal- | <div style="display: flex; align-items: center; justify-content: center;"> <div style="font-size: 4em; margin-right: 5px;">}</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold;">Muscles.</div> </div> | <ul style="list-style-type: none"> 3, 4. Muscular Branches. 5. Posterior Tibial. 6, 7, 8, 9. Muscular and Communicating Branches. 10 Nutrient Vein. 11. Muscular Branch. 12. Peroneal Vein. 13. Posterior Tibial. 14. Popliteal. 15. Superior External Articular Vein 16. Inferior Internal Articular. 17. Muscular Branch. 18. Superior Internal Articular. 19. Muscular Branch. 20. Popliteal Artery. 21. Posterior Tibial Artery. 22. Peroneal Artery. |
|---|--|---|

FIG. III.

- | | | |
|--------------------------------------|--------------------------------|------------|
| <i>a.</i> Lumbar Vertebrae. | <i>o.</i> Gluteus Maximus | } Muscles. |
| <i>b.</i> Sacrum. | <i>p.</i> Quadratus Femoris | |
| <i>c.</i> Ilium. | <i>q.</i> Obturator Externus | |
| <i>d.</i> Great Sacro-sciatic Notch. | <i>r.</i> Adductor Magnus | |
| <i>e.</i> Tuberosity of Ischium. | <i>s.</i> Semi-membranosus | |
| <i>f.</i> Sacro-sciatic Ligament. | 1. Internal Iliac Vein. | |
| <i>g.</i> Trochanter Major. | 2. Gluteal. | |
| <i>h.</i> Obturator Internus. | 3. Anastomosis with Ischiatic. | |
| <i>i, k.</i> Gemelli. | 4. Superior Circumflex Ilii. | |
| <i>l.</i> Piriformis | 5. Inferior Circumflex Ilii. | |
| <i>m.</i> Gluteus Minimus | 6 to 12. Muscular Branches. | |
| <i>n.</i> Gluteus Medius | 9. Ischiatic Vein. | |

PLATES LI AND LII.

PELVIC VEINS.

- | | |
|---|-------------------------------------|
| <i>a.</i> Crest of Ilium. | 7. Supra-renal Branch. |
| <i>b.</i> Symphysis Pubis. | 8. Lumbar Veins. |
| <i>c.</i> Tuberosity of Ischium. | 9. Their Anastomoses. |
| <i>d.</i> Spine of Ischium. | 10. Muscular Branch. |
| <i>e.</i> Lesser Sacro-sciatic Ligament. | 11. Ilio-lumbar Vein. |
| <i>f.</i> Greater Sacro-sciatic Ligament. | 12. Circumflex Iliac: |
| <i>g.</i> Great Sacro-sciatic Notch. | 13. Spermatic Vein. |
| <i>h.</i> Sacrum. | 14. Common Iliac Vein. |
| <i>i.</i> Iliacus | 15. External Iliac. |
| <i>k.</i> Quadratus Lumborum | 16. Internal Iliac. |
| <i>l.</i> Psoas Muscle. | 17. Ilio-lumbar. |
| <i>m.</i> Kidney. | 18. Fourth Lumbar. |
| <i>n.</i> Ureter. | 19. Sacra Media. |
| <i>o.</i> Suprarenal Capsule. | 20. Ischiatic. |
| <i>p.</i> Diaphragm. | 21. Anastomosis with middle Sacral. |
| <i>q.</i> Obturator Nerve. | 22. Anastomosis with Gluteal. |
| 1. Abdominal Aorta. | 23. Comes Nervi Ischiadici. |
| 2. Cœliac Axis. | 24. Anastomosis with Hemorrhoidal. |
| 3. Superior Mesenteric Artery. | 25. Branch of Vesical Plexus. |
| 4. Vena Cava Inferior. | 26. Origin of Gluteal Vein. |
| 5. Renal Vein. | 27. Gluteal Vein. |
| 6. Renal Branch. | |

PLATES LIII AND LIV.

VENA PORTÆ.

- | | |
|------------------------------------|-----------------------------------|
| <i>a.</i> Diaphragm. | <i>e.</i> Kidney. |
| <i>b.</i> Liver. | <i>f.</i> Pyloric End of Stomach. |
| <i>c.</i> Round Ligament of Liver. | <i>g.</i> Pyloric Valve. |
| <i>d.</i> Spleen. | <i>h.</i> Duodenum. |

- | | |
|---|--|
| <i>i.</i> Jejunum.
<i>k.</i> Cæcum.
<i>l.</i> Anterior Colic Ligament.
<i>m.</i> Ascending Colon.
<i>n.</i> Descending Colon.
<i>o.</i> Sigmoid Flexure.
<i>p.</i> Bladder.
<i>q.</i> Ureter
<i>r.</i> Pubes.
<i>s.</i> Ilium.
<i>t.</i> Acetabulum.
<i>u.</i> Obturator Externus.
<i>v.</i> Crus Penis.
<i>w.</i> Accelerator Urinæ.
<i>x.</i> Urethra.
<i>y.</i> Corpora Cavernosa Penis.
<i>z.</i> Suspensory Ligament.
1. Abdominal Aorta.
2. Common Iliac.
3. Internal Iliac. | 4. External Iliac Artery.
5. Vena Cava Ascendens.
6. Common Iliac Vein.
7. Internal Iliac Vein.
8. External Iliac Vein.
9. Vena Portæ.
10. Origin of Phrenic Gastric Veins.
11. Colica Media.
12. Left Branch of Colica Media.
12. Its junction with the Mesenteric.
14. Inferior Mesenteric.
15. Colica Sinistra and Hemorrhoidal.
16. Splenic Vein. [Vein.
17. Branches of Superior Mesenteric
18. Ileo-colic Vein.
19. Cæcal Vein.
20. Gastro-epiploica. [tra.
21. Gastro-epiploica Dextra et Sinis-
22. Gastric Vein. |
|---|--|

PLATES LV AND LVI.

FIGS. I AND II. SINUSES OF THE BRAIN AND VENOUS PLEXUS OF THE SPINAL CORD.

- | | |
|---|---|
| <i>a.</i> Dura Mater.
<i>b.</i> Cerebellar Portion.
<i>c.</i> Cranial Bones.
<i>d.</i> Mastoid Process.
<i>e.</i> Foramen Magnum.
<i>f.</i> Lower Jaw.
<i>g.</i> Atlas.
<i>h.</i> Axis. [Vertebræ.
<i>i.</i> Transverse Processes of Cervical
<i>k.</i> Transverse Processes of Dorsal
and Lumbar.
<i>l.</i> Spinal Cord.
<i>m.</i> Ribs.
<i>n.</i> Spinal Nerves. | <i>o.</i> Cauda Equina.
<i>p.</i> Sacrum.
<i>q.</i> Coccyx.
1. Superior Longitudinal Sinus.
2. Vena Satorium.
3. Transverse Sinus.
4. Torcular Herophili.
5. Occipital.
6. Middle Meningeal Vein.
7. Posterior Meningeal Vein.
8. External Vertebral Vein.
9. Occipital Vein.
10. Posterior Longitudinal Veins.
11. Transverse Branches. |
|---|---|

FIG. III. SECTIONAL VIEW OF LOWER JAW.

- | | |
|---|---|
| <i>a.</i> Ramus.
<i>b.</i> Body.
<i>c.</i> Angle.
<i>d.</i> Condyle.
<i>e.</i> Sigmoid Notch. | <i>f.</i> Coronoid Process.
<i>g.</i> Diplœ.
<i>h.</i> Incisor Teeth.
<i>i.</i> Canine.
<i>k.</i> Molars. |
|---|---|

- | | |
|------------------------------|-----------------------|
| 1. Inferior Dental Artery. | 4. Dental Branches. |
| 2. Inferior Maxillary Nerve. | 5. Anastomosis of 4. |
| 3. Inferior Maxillary Veins. | 6. Nutrient Branches. |

FIG. IV. DORSAL VERTEBRA. }
 FIG. V. LUMBAR VERTEBRA. } TRANSVERSE SECTION.

- | | |
|---------------------------------|-------------------------------|
| a. Body. | 2. Posterior Branches. |
| b. Transverse Process. | 3. Anterior Plexus. |
| c. Spinous Process. | 4, 5. Venæ Basis Vertebrarum. |
| d. Spinal Canal. | 6. Lateral Branches. |
| 1. Anterior Longitudinal Veins. | |

PLATES LVII AND LVIII.

VEINS OF BRAIN AND SPINAL CORD.

FIGS. I AND II. ANTERIOR ASPECT OF CEREBRO-SPINAL AXIS.

- | | |
|--------------------------------------|-------------------------------------|
| a. Section of Parietal Bones. | 3. Ophthalmic Vein. |
| b. Section of Occipital Bone. | 4. Middle Meningeal. |
| c. Foramen Magnum. [tebræ. | 5. Circular and Cavernous Sinuses. |
| d. Posterior Portion of Arch of Ver- | 6. Lateral Sinus. |
| e. Transverse processes. | 7. Small Cerebral Branches. |
| f. First Rib. | 8. Vertebral Vein. |
| g. Second to Twelfth Rib. | 9. Communicating Branches. |
| h. Anterior Lobes of the Brain. | 10. Vertebral Vein. |
| i. Middle Lobes. | 11. Anterior Longitudinal Vein. |
| k. Cerebellum. | 12. Anterior Branches. |
| l. Optic Commissure. | 13. Inter-vertebral Branches. |
| m. Optic Nerve. | 14. Intercostals. |
| n. Patheticus. | 15. Ascending Lumbar. |
| o. Abducens. | 16. Last Intercostals. [bar. |
| p. Motor Oculi. | 17. Termination of Ascending Lum- |
| q. Trigemini. | 18. Anastomosing Branches to Long- |
| r. Medulla Oblongata. | itudinal Veins. |
| s. Spinal Cord. | 19. Anterior Sacral. [Vein. |
| t. Intercostal Nerves. | 20. Origin of Anterior Longitudinal |
| u. Intercostal Muscles. | 21. Internal Carotid Artery. |
| v. Sacral Nerves. | 22. Middle Meningeal Artery. |
| w. Sacrum. | 23. Vertebral Artery. |
| x. Coccyx. [Veins. | 24. Intercostal Arteries. |
| 1. Branches of Anterior Meningeal | 25. Lumbar Branches to Spinal Cord |
| 2. Speno-parietal Vein. | 26. Anterior Sacral Arteries. |

FIG. III. SECTION OF SPINAL CANAL, SHOWING ANTERIOR LONGITUDINAL VEIN.

- | | |
|-----------------------|------------------------------|
| a. Body of Vertebrae. | c. Transverse Process. |
| b. Arch. | d. Anterior Common Ligament. |

- | | |
|--|-----------------------------------|
| <i>e.</i> Same, removed to show Veins. | 3. Same, covered by <i>d.</i> |
| 1. Anterior Longitudinal Veins. | 4. Lateral Communicating Branches |
| 2. Anterior Branches, Transverse. | |

PLATES LIX AND LX.

LYMPHATICS OF HEAD AND NECK.

- | | |
|---|--|
| <i>a, b, c.</i> Occipito-frontalis. | <i>ρ.</i> Complexus et Biventer Cervicis. |
| <i>d.</i> Temporal Muscle. | <i>σ.</i> Trapezius. |
| <i>e.</i> Upper Eyelid. | <i>υ.</i> Splenius Capitis. |
| <i>f.</i> Levator Palpebræ | <i>υ.</i> Supra-spinatus. |
| <i>g.</i> Section of Frontal Bone. | <i>φ.</i> Levator Anguli Scapulæ. |
| <i>h.</i> Frontal Sinus. | <i>κ.</i> Ribs. |
| <i>i.</i> Eye Ball. | <i>φ.</i> Intercostal Muscles. |
| <i>k.</i> Rectus Superior of Eye | <i>a</i> ¹ . Frontal Nerve. |
| <i>l.</i> Rectus Externus. | <i>b</i> ¹ . Infraorbital Nerve. |
| <i>m.</i> Optic Nerve. | <i>c</i> ¹ . Buccal Branch. |
| <i>n.</i> Rectus Inferior. | <i>d</i> ¹ . Lingual Branch of Fifth Nerve. |
| <i>o.</i> Lower Eyelid. | <i>e</i> ¹ . Hypo-glossal Nerve. |
| <i>p.</i> Obliquus Inferior. [Nasi. | <i>f</i> ¹ . Glosso-pharyngeus. |
| <i>q.</i> Levator Labii Superioris Alæque | <i>g</i> ¹ . Sympathetic Nerve. |
| <i>r.</i> Compressor Naris. | <i>h</i> ¹ . Pneumogastric. |
| <i>s.</i> Levator Anguli Oris. | <i>i</i> ¹ . Nervus Accessorius Willisi. |
| <i>t.</i> Upper Maxilla. | <i>k</i> ¹ . Occipital Nerve. |
| <i>u.</i> Its Malar Process. | 1. Pulmonary Artery. |
| <i>v.</i> Orbicularis Oris. | 2. Arch of the Aorta. |
| <i>w.</i> Buccinator. | 3. Left Subclavian. |
| <i>x.</i> Glenoid Fossa. | 4. Common Carotid. |
| <i>y.</i> Zygomatic Process. | 5. External Carotid. |
| <i>z.</i> Mastoid Process. | 6. Superior Thyroid. |
| <i>α.</i> Tongue. | 7. Lingual. |
| <i>β.</i> Sublingual Gland. | 8. Facial. |
| <i>γ.</i> Pharynx. | 9. Occipital. |
| <i>δ.</i> Lower Jaw. | 10. Anterior Auricular. |
| <i>ε, ζ.</i> Genio-glossus. | 11. Temporal. |
| <i>η.</i> Genio-hyoid. | 12. Internal Maxillary. |
| <i>θ.</i> Hyo-glossus. | 13. Deep Temporal. |
| <i>ι.</i> Stylo-glossus. | 14. Middle Meningeal. |
| <i>κ.</i> Os Hyoides. | 15. Infra-orbital Artery. |
| <i>λ.</i> Thyro-hyoid Membrane. | 16. Vena Cava Superior. |
| <i>μ.</i> Larynx. | 17. Innominate Vein. |
| <i>ν.</i> Thyroid Gland. | 18. Subclavian Vein. |
| <i>ξ.</i> Trachea. | 19. Jugular Vein. |
| <i>ο.</i> Obliquus Capitis Inferior. | 20. Inferior Thyroid. |
| <i>π.</i> Trachelo-mastoid. | 21. Vertebral. |

- | | |
|---------------------------------|--|
| 22. External Jugular. | 35. Temporal Lymphatics. |
| 23, 24. Internal Jugular. | 36. Lingual Glands. |
| 25. Facial Vein. | 37. Deep Lymph Vessels of the Face. |
| 26. Superior Thyroid. | 39. Deep Facial Glands. |
| 27. Lingual. | 40. Superficial Cervical Vessels. |
| 28. Facial. | 41. Superficial Cervical Glands. |
| 29. Pharyngeal. | 42. Internal Jugular Plexus. |
| 30. Meningeal. | 43. Superior, Deep Cervical Glands. |
| 31. Internal Cephalic. | 44. Inferior Deep Cervical Glands. |
| 32. Temporal. | 45. Tracheal Glands. |
| 33. Occipital Vein. | 46, 47. Inferior and superior Branches |
| 34. Occipital Lymphatic Glands. | forming the Lymphatic Duct. |

PLATES LXI AND LXII.

LYMPHATICS OF THE EXTREMITIES.

FIG. I. LYMPHATICS OF THE UPPER EXTREMITY.

- | | |
|------------------------------|---|
| <i>a, b.</i> Deltoid. | <i>m.</i> Radial Artery. |
| <i>c.</i> Pectoralis Major. | 1. Lymphatics of the Fingers. |
| <i>d.</i> Latissimus Dorsi. | 2. Lymphatics of the Carpus. |
| <i>e.</i> Teres Major. | 3. Dorsal Lymphatics. |
| <i>f.</i> Sub-scapularis. | 4. Superficial Vessels of Forearm. |
| <i>g.</i> Nerves of the Arm. | 5. Superficial Glands of the Elbow-joint. |
| <i>h.</i> Axillary Artery. | 6. Superficial Lymphatics of the arm. |
| <i>i.</i> Axillary Vein. | 7. Axillary Glands. |
| <i>k.</i> Cephalic Vein. | |
| <i>l.</i> Ulnar Artery. | |

FIG. II. SUPERFICIAL LYMPHATICS OF THE LEG.

- | | |
|---|--|
| 1. Internal Saphenous Vein. | 5. Anterior Lymphatics of the Leg. |
| 2. Lymphatics of the Ball of the foot. | 6. Internal and Anterior Vessels of the Thigh. |
| 3. From the Toes and Dorsum of the Foot. [Leg. | 7. Inguinal Glands. |
| 4. Internal Lymph Vessels of the | |

PLATES LXIII AND LXIV.

LYMPHATICS OF THE INTESTINES AND MESENTERY.

- | | |
|-------------------------------------|----------------------------------|
| <i>a.</i> Abdominal Walls—Anterior. | <i>h.</i> Ileum. |
| <i>b.</i> Last Dorsal Vertebra. | <i>i.</i> Mesentery. |
| <i>c.</i> False Ribs. | 1. Abdominal Aorta. |
| <i>d.</i> Transversalis Abdominis. | 2. Vena Cava Inferior. |
| <i>e.</i> Quadratus Lumborum. | 3. Lacteals of Small Intestines. |
| <i>f.</i> Duodenum. | 4. Mesenteric Glands. |
| <i>g.</i> Jejunum. | 5. Thoracic Duct. |

- | | |
|--|---|
| 6. Division and Plexiform Inter-
lacement of 5. | 9. Posterior Mediastinal Glands. |
| 7. Inter-costal Glands. | 10. Duct from the Inter-costal
Glands. |
| 8. Their Trunk which joins with 5. | 11. Their Duct to the Thoracic Duct. |

PLATES LXV AND LXVI.

LYMPHATICS OF THE ABDOMEN.

- | | |
|---|---|
| <i>a.</i> Eleventh Dorsal Vertebra. | 8. Sacra Media. |
| <i>b, d.</i> Ninth to Eleventh Rib. | 9. Common Iliac. |
| <i>e.</i> Fifth Lumbar Vertebra. | 10. Femoral. |
| <i>f.</i> Sacrum. | 11. Internal Iliac. |
| <i>g.</i> Crest of the Ilium. | 12. Ilio-lumbar. |
| <i>h.</i> Pubes. | 13. Inferior Lumbar. |
| <i>i.</i> Abdominal Wall, Reflected. | 14. Circumflex Iliac. |
| <i>k.</i> Iliacus. | 15. Epigastric. |
| <i>l.</i> Quadratus Lumborum. | 16. Internal Pudic. |
| <i>m.</i> Psoas Muscle. | 17. External Pudic. |
| <i>n.</i> Transversalis. | 18. Branch to Fallopian Tube from
Spermatic. |
| <i>o.</i> Liver. | 19. Branch of same to Fundus Uteri. |
| <i>p.</i> Spleen. | 20. Ovarian Branch of Spermatic |
| <i>q.</i> Kidney. | 21. Vena Azygos. [Artery.] |
| <i>r.</i> Supra-renal Capsule. | 22. Vena Cava Inferior. |
| <i>s.</i> Ureter. | 23. Supra-renal Vein. |
| <i>t.</i> Bladder. | 24. Renal Vein. |
| <i>u.</i> Uterus. | 25. Spermatic Vein. |
| <i>v.</i> Fallopian Tube. | 26. Plexus Pampiniformis. |
| <i>w.</i> Fimbriated Extremity. | 27. Common Iliac Vein. |
| <i>x.</i> Ovary. | 28. Middle Sacral. |
| <i>y.</i> Broad Ligament of Uterus. | 29. External Iliac. |
| <i>z.</i> Rectum. | 30. Circumflex Iliac. |
| <i>α.</i> Branch of last Dorsal Nerve. | 31. Epigastric. |
| <i>β.</i> Branch of First Lumbar Nerve. | 32. Internal Iliac. |
| <i>γ.</i> Branch of Second and First
Lumbar. | 33. Vaginal Branch of 32. |
| <i>δ.</i> Branch of First Lumbar—right
side. | 34. Splenic Vein. |
| <i>ε.</i> Branch of Second Lumbar—same | 35. Superficial Lymphatics of Thigh |
| <i>ζ.</i> Crural Nerve. [side.] | 36. Superficial Lymphatics of Hips
and Gluteal Region. |
| 1. Abdominal Aorta. | 37. Inguinal Glands. |
| 2. Coeliac Axis. | 38. Circumflex Iliac Lymphatics. |
| 3. Splenic Artery. | 39. Superior Iliac Glands. |
| 4. Superior Mesenteric. | 40. Ilio-lumbar Lymph Vessels. |
| 5. Renal Artery. | 41. Epigastric Plexus. |
| 6. Spermatic Artery. | 42. Sacral Plexus. |
| 7. Inferior Mesenteric. | 43. Internal Iliac Plexus. |

- | | |
|------------------------------------|---------------------------------------|
| 44. External Iliac Plexus. | 51. Splenic Lymphatics. [phatics. |
| 45. Lumbar Plexus. | 52. Superficial and deep splenic lym- |
| 46. Spermatic Lymphatics. | 53. Pancreatico-splenic Plexus. |
| 47. Supra-renal. [neys. | 54. Superficial Lymphatics of Liver |
| 48. Superficial Lymphatics of Kid- | 55. Right Lumbar Trunk to Thoracic |
| 49. Trunks of Superficial and Deep | Duct. |
| Lymphatics of the Kidney. | 56. Left Lumbar trunk to Thoracic |
| 50. Colic Plexus. | 57. Thoracic Duct. [Duct. |

PLALES LXVII AND LXVIII.

MAIN TRUNKS OF LYMPHATIC SYSTEM.

- | | |
|--|--------------------------------------|
| <i>a.</i> Cervical Vertebrae. | 8. External Jugular. |
| <i>b.</i> Dorsal Vertebrae. | 9. Internal Jugular. |
| <i>c.</i> Lumbar Vertebrae. | 10. Subclavian Vein. |
| <i>d.</i> Ribs. | 11. Cephalic Vein. |
| <i>e.</i> Clavicle. | 12. Basilic Vein. |
| <i>f.</i> Crest of Ilium. | 13. Scapular Veins. |
| <i>g.</i> Sacrum. | 14. Vena Azygos. |
| <i>h.</i> Superior Ileo-lumbar Ligament. | 15. Intercostal. |
| <i>i.</i> Iliacus. | 16. Superior Intercostal—right side. |
| <i>k.</i> Psoas. | 17. Intercostal Veins. |
| <i>l.</i> Transversalis. | 18. Muscular Branches. |
| <i>m.</i> Quadratus Lumborum. | 19. Lumbar. |
| <i>n.</i> Latissimus Dorsi. | 20. Ascending Lumbar. |
| <i>o.</i> Intercostals. | 21. Ilio-lumbar Vein. |
| <i>p.</i> Subscapularis. | 22. Sacral Plexus Lymphatic. |
| <i>q.</i> Brachialis Anticus. | 23. Internal Iliac Plexus. |
| <i>r.</i> Biceps. | 24. External Iliac Plexus. |
| <i>s.</i> Coraco-brachialis. | 25. Superior Iliac Glands. |
| <i>t.</i> Pectoralis Major. | 26. Lumbar Plexus. |
| <i>u.</i> Deltoid. | 27. Branches from the Renal Plexus |
| <i>v.</i> Pectoralis Minor. | 28. Left Lumbar Trunk. |
| <i>w.</i> Trapezius. | 29. Right Lumbar Trunk. |
| <i>x.</i> Levator Anguli Scapulæ. | 30. Thoracic Duct. |
| <i>y.</i> Scalenus Anticus. | 31. Intercostal Lymph Vessels and |
| <i>z.</i> Longus Colli. | Glands. |
| <i>a.</i> Lumbar Nerves. | 32. Deep Lymphatics—Upper Ex- |
| <i>β.</i> Crural Nerves. | tremity. |
| <i>γ.</i> Obturator Nerve. | 33. Left Thoracic Lymphatics. |
| 1. Subclavian Artery. | 34. Axillary Glands. |
| 2. Vertebral Artery. | 35. Subclavian Trunk. [Group. |
| 3. Axillary Artery. | 36. Deep Cervical Glands—Inferior |
| 4. Intercostal Arteries. | 37. Trunk from Superior Deep Cerv- |
| 5. Lumbar Arteries. | ical Glands. |
| 6. Innominate Vein. | 38. Jugular Lymphatic Trunk. |
| 7. Vertebral Vein. | 39. Right Lymphatic Duct. |



NEUROLOGY.



NEUROLOGY.

PLATES I AND II.

FIG. I. LONGITUDINAL SECTION OF BRAIN.

- | | |
|---|---|
| <i>a.</i> Frontal Sinus. | 15. Anterior Commissure. |
| <i>b.</i> Cribriform Plate of Ethmoid. | 16. Corpus Mammillare. |
| <i>c.</i> Sphenoidal Sinus. | 17. Tuber Cinereum. |
| <i>d.</i> Sella Turcica. | 18. Optic Commissure. |
| <i>e.</i> Posterior Clinoid Processes. | 19. Optic Nerve. |
| <i>f.</i> Basilar Groove. | 20. Motor Oculi. |
| <i>g.</i> Basilar Process of Occipital. | 21. Pituitary Body. |
| <i>h.</i> Occipital Bone. | 22. Infundibulum. |
| <i>i.</i> Falx Cerebri. | 23. Trochlearis. |
| <i>k.</i> Falx Cerebelli. | 24. Pons Varolii. |
| 1. Gyrus Fornicatus. | 25. Peduncles of Cerebrum. |
| 2. Its Lower Portion. | 26. Anterior Margin of Fissure of Sylvius. |
| 3. Corpus Callosum. | 27. Corpora Quadrigemina. |
| 4. Its Arch. | 28. Pineal Gland. |
| 5. Its Genu. | 29. Roof of Fourth Ventricle. |
| 6. Apex of Genu. | 30. Posterior Margin of Fissure of Sylvius. |
| 7. Septum Lucidum. | 31. Floor of Fourth Ventricle. |
| 8. Fornix. | 32. Medulla Oblongata. |
| 9. Its Left Anterior Crus. | 33. Processus e cerebello ad testes. |
| 10. Its Left Posterior Crus. | 34. Vermiform Process. |
| 11. Choroid Plexus. | 35. Its Divisions. |
| 12. Thalamus Opticus. | 36. Cerebellum. |
| 13. Foramen of Monro. | |
| 14. Right Anterior Crus of Fornix. | |

FIG. II. SECTION OF BRAIN EXPOSING ONE OF THE LATERAL VENTRICLES.

- | | |
|-----------------------------------|-----------------------------|
| <i>a.</i> Cranial Bones. | 5, 6. Striæ Longitudinales. |
| <i>b.</i> Internal Frontal Crest. | 7. Corpus Striatum. |
| <i>c.</i> Dura Mater. | 8. Its Head. |
| <i>d.</i> Falx Cerebelli. | 9. Tænia Semi circularis. |
| <i>e.</i> Its Two Divisions. | 10. Fornix. |
| <i>f.</i> 1. Centrum Ovale. | 11. Posterior Crus. |
| 2. Corpus Callosum. | 12. Hippocampus Major. |
| 3. Genu. | 13. Choroid Plexus. |
| 4. Arch. | 14. Thalamus Opticus. |

FIG. III. SECTION OF CEREBRUM, EXPOSING BOTH LATERAL VENTRICLES.

a to *e*. Same as in Figure 2.

- | | |
|--------------------------------------|-----------------------------|
| 1. Corpus Callosum. | 7. Posterior Cornu of Same. |
| 2. Genu. | 8. Corpus Striatum. |
| 3. Striæ Longitudinales. | 9. Tænia Semi circularis. |
| 4. Fasciculi Medullares. | 10. Choroid Plexus. |
| 5. Arch of Corpus Callosum. [tricle. | 11. Middle Cornu. |
| 6. Anterior Cornu of Lateral Ven- | 12. Pes Hippocampus. |

FIG. IV. SECTION OF CEREBRUM, EXPOSING THE THIRD VENTRICLE.

a. to *d*. Same as Figure 2.

- | | |
|------------------------------|--------------------------------|
| 1. Frontal Lobe. | 14. Posterior Tubercle. |
| 2. Occipital Lobe. | 15. Anterior Commissure. |
| 3. Middle Lobe. | 16. Soft Commissure. |
| 4. Centrum Ovale. | 17. Third Ventricle. |
| 5. Genu of Corpus Callosum. | 18. Posterior Commissure. |
| 6. Septum Lucidum. | 19. Peduncles of Pineal Gland. |
| 7. Fifth Ventricle. | 20. Pineal Gland. |
| 8. Anterior Crura of Fornix. | 21. Corpora Quadrigemina. |
| 9. Corpus Striatum. | 22. Lyra. |
| 10. Anterior Portion. | 23. Posterior Crura of Fornix. |
| 11. Tænia Semi circularis. | 24. Hippocampus Major. |
| 12. Thalamus Opticus. | 25. Pes Accessorius. |
| 13. Eminentia Collateralis. | 26. Fascia Dentata. |
| | 27. Corpus Fimbriatum. |

FIG. V. INFERIOR SURFACE OF CEREBRUM; CEREBELLUM AND PONS VAROLII REMOVED.

- | | |
|-------------------------------|----------------------------------|
| 1. Anterior Lobe. | 15. Corpora Albicantia. |
| 2. Middle Lobe. | 16. Posterior Perforated Space. |
| 3. Posterior Lobe. | 17. Motor Oculi Nerve. |
| 4. Reticular Substance. | 18. Crura Cerebri. |
| 5. Fissure of Sylvius. | 19. Pons Varolii. |
| 6. Olfactory Nerve. | 20. Aquæductus Sylvii. |
| 7. Its Roots. | 21, 22. Corpora Geniculata. |
| 8. Lamina Cinerea. | 23. Middle Cornu of Lateral Ven- |
| 9. Anterior Perforated Space. | tricle. |
| 10. Optic Nerve. | 24. Arch of Corpus Callosum. |
| 11. Optic Commissure. | 25. Lyra. |
| 12. Optic Tract. | 26. Hippocampus Major. |
| 13. Pituitary Body. | 27. Pes Accessorius. |
| 14. Tuber Cinereum. | 28. Corpus Fimbriatum. |

FIG. VI. CEREBELLUM, PONS VAROLII AND MEDULLA OBLONGATA.

- | | |
|----------------------|----------------------|
| 1. Pons Varolii. | 3. Abducens Nerve. |
| 2. Middle Peduncles. | 4. Anterior Fissure. |

- | | |
|------------------------------------|---------------------------------|
| 5. Foramen Cæcum. | 12. Lobus Quadratus. |
| 6. Pyramids. | 13. Lobus Biventer. |
| 7. Olivary Body. | 14. Tonsil. |
| 8. Arciform Fibres. | 15, 16. Lobus Gracilis. |
| 9. Restiform Bodies. | 17. Lobus Semilunaris. |
| 10. Inferior Longitudinal Fissure. | 18. Inferior Vermiform Process. |
| 11. Flocculus. | 19. Pyramids. |

FIG. VII. CEREBELLUM, UNDER SURFACE.

- | | |
|-------------------------------------|----------------------------------|
| 1. Cerebellum. | 6. Flocculus. |
| 2. Tonsils. | 7, 8, 9. Uvula. |
| 3. Processus e Cerebello ad Testes. | 10. Pyramids. |
| 4. Nodulus. | 11. Inferior Transverse Lamella. |
| 5. Velum Medullare. | |

FIG. VIII. SECTION OF CEREBELLUM.

- | | |
|---------------------------------|--------------------------|
| 1. Incisura Cerebelli Anterior. | 4. Corpus Dentatum. |
| 2. Pons Varolii. | 5. Laminæ of Arbor Vitæ. |
| 3-5. Arbor Vitæ. | |

PLATES III AND IV.

FIG. I. UNDER SURFACE OF THE BRAIN.

- | | |
|-----------------------------|------------------------------|
| 1. Anterior Lobes. | 19. Inferior Semilunar Lobe. |
| 2. Middle Lobes. | 20. Superior Semilunar Lobe. |
| 3. Posterior Lobes. | 21. Valley. |
| 4. Convolution of Cerebrum. | 22. Olfactory Nerve. |
| 5. Sulci. | 23. Its Roots. |
| 6. Fissure of Sylvius. | 24. Optic Nerve. |
| 7. Reticular Substance. | 25. Optic Commissure. |
| 8. Longitudinal Fissure. | 26. Optic Tract. |
| 9. Infundibulum. | 27. Motor Oculi Nerve. |
| 10. Tuber Cinereum. | 28. Patheticus Nerve. |
| 11. Corpora Mammillaria. | 29. Trifacial Nerve. |
| 12. Crura Cerebri. | 30. Abducens Nerve. |
| 13. Pons Varolii. | 31. Portio Dura Nerve. } |
| 14. Medulla Oblongata. | 32. Portio Mollis Nerve. } |
| 15. Olivary Bodies. | 33. Glosso-pharyngeal Nerve. |
| 16. Lobus Quadratus. | 34. Pneumogastric Nerve. |
| 17. Lobus Biventer. | 35. Hypo-glossal Nerve. |
| 18. Tonsils. | |

FIG. II. SUPERIOR ASPECT OF THE VENTRICLES OF THE BRAIN.

- | | |
|------------------------------|-----------------------------------|
| 1. Substance of Hemispheres. | 3. Septum Lucidum. [tricle. |
| 2. Corpus Callosum. | 4. Anterior Cornu of Lateral Ven- |

- | | |
|--------------------------------|-----------------------------------|
| 5. Corpus Striatum. | 20. Nates. |
| 6. Head. | 21. Brachia. |
| 7. Tænia Semi circularis. | 22. Crura Cerebri. |
| 8. Thalamus Opticus. | 23. Iter e Tertio ad Quartum Ven- |
| 9. Anterior Commissure. | triculum. |
| 10. Anterior Crura of Fornix. | 24. Median Fissure. |
| 11. Fornix. | 25. Fourth Ventricle. |
| 12. Soft Commissure. | 26-31. Calamus Scriptorius. |
| 13. Third Ventricle. | 27. Locus Cœruleus. |
| 14. Posterior Commissure. | 28. Tænia Violacea. |
| 15. Peduncles of Pineal Gland. | 29. Origin of Auditory Nerve. |
| 16. Pineal Gland. | 30. Crura Cerebelli ad Pontem. |
| 17. Choroid Plexus. | 31. Apex. |
| 18. Posterior Crura of Fornix. | 32. Posterior Median Fissure. |
| 19. Testes. | 33. Restiform Bodies. |

FIG. III. SECTION OF MEDULLA, PONS, AND PART OF BASE OF CEREBRUM.

- | | |
|-------------------------------|----------------------------------|
| 1. Anterior Lobe. | 13. Iter ad Infundibulum. |
| 2. Middle Lobe. | 14. Transverse Lamina. |
| 3. Anterior Perforated Space. | 15. Velum Anterius. |
| 4. Corpora Mammillaria. | 16. Chordæ. |
| 5. Anterior Commissure. | 17. Peduncles of Cerebrum. |
| 6. Middle Commissure. | 18. Pons Varolii. |
| 7. Third Ventricle. | 19. Section of Same. |
| 8. Thalamus Opticus. | 20. Septum of Medulla Oblongata. |
| 9. Posterior Commissure. | 21. Medulla Oblongata. |
| 10, 14. Valve of Vieussens. | 22. Fourth Ventricle. |
| 11. Corpus Dentatum. | 23. Inferior Vermiform Process. |
| 12. Corpus Fimbriatum. | 24. Tonsils. |

FIG. IV. PORTION OF CHOROID PLEXUS OF LATERAL VENTRICLE MAGNIFIED.

- | | |
|-------------------------|------------|
| 1. Branches of Vessels. | 2. Plexus. |
|-------------------------|------------|

FIG. V. RADIATION OF FIBRES OF CORPUS CALLOSUM IN THE CEREBRUM.

- | | |
|-----------------------------|--------------------------------------|
| 1. Anterior Lobe. | 9. Corpus Callosum. |
| 2. Middle Lobe. | 10. Anterior Fibres to Frontal Lobe. |
| 3. Posterior Lobe. | 11. Middle Fibres to Middle Lobe. |
| 4. Olfactory Nerve. | 12, 13. Fibres to Wall of Lateral |
| 5. Optic Nerve. | Ventricle. |
| 6. Crura Cerebri. | 14. Fibres Passing to Fornix. |
| 7. Thalamus Opticus. | 15. Posterior Fibres to Occipital |
| 8. Genu of Corpus Callosum. | 16. Rostrum. [Lobe. |

FIG. VI. SAME AS FIG. V.

- | | |
|--------------------|-------------------|
| 1. Anterior Lobe. | 3. Parietal Lobe. |
| 2. Occipital Lobe. | 4. Fornix. |

- | | |
|---------------------|-------------------------------|
| 5. Septum Lucidum. | 10. Fibres to Posterior Lobe. |
| 6. Corpus Callosum. | 11. Same to Middle Lobe. |
| 7. Genu. | 12. Same to Anterior Lobe. |
| 8. Apex of Genu. | 13. Fibræ Arcuatæ. |
| 9. Rostrum. | |

FIG. VII. RADIATION OF CRURA CEREBRI.

- | | |
|------------------------------|-------------------------------|
| 1. Cerebellum. | 7. Fibræ Arcuatæ. |
| 2. Corpora Mammillaria. | 8. Peduncles of Cerebrum. |
| 3. Frontal Lobe. | 9. Fibres to Frontal Lobe. |
| 4. Occipital Lobe. | 10. Fibres to Middle Lobe. |
| 5. Anterior Commissure. | 11. Fibres to Posterior Lobe. |
| 6. Fibres to Posterior Lobe. | |

FIG. VIII. DISTRIBUTION OF FIBRES OF THE ANTERIOR CRUS OF FORNIX.

- | | |
|---|--|
| 1. Frontal Lobe. | 11. Masses Forming Corpora Albicantia. |
| 2. Gyrus Fornicatus. | 12. { Portion Reflected to the |
| 3. Corpus Callosum. | 13. { Thalamus Opticus. |
| 4. Genu. | 14. Anterior Commissure. |
| 5. Apex of Genu. | 15. Peduncles of Cerebrum. |
| 6. Corpus Striatum. | 16. Motor Oculi Nerve. |
| 7. Thalamus Opticus. | 17. Pons Varolii. |
| 8. Body of Fornix. | 18. Medulla Oblongata. |
| 9. Anterior Crus. | 19. Velum Medullare. |
| 10. Portion passing through Tuber Cinereum. | 20. Fourth Ventricle. |

PLATES V AND VI.

PERPENDICULAR SECTION OF LEFT HEMISPHERE OF THE CEREBRUM

- | | |
|------------------------------------|------------------------------------|
| 1, 2. Parietal Lobes. | 9. Fornix. |
| 3. Temporal Lobes. | 10. Lateral Ventricle. |
| 4. Gray Substance of Convolutions. | 11. Corpus Striatum. |
| 5. White Substance of Brain. | 12. Nucleus Lenticularis. |
| 6. Crura Cerebri. | 13. Nucleus Teniaformis. |
| 7. Thalamus Opticus. | 14. Hippocampus Major. [tricle. |
| 8. Corpus Callosum. | 15. Inferior Cornu of Lateral Ven- |

FIG. II. UPPER ASPECT OF CEREBELLUM.

- | | |
|-----------------------------------|------------------------------------|
| 1. Crura Cerebri. | 8. Commissura Simplex. |
| 2. Locus Niger. | 9. Transverse Lamina. |
| 3. Testes. | 10, 12. Hemispheres of Cerebellum. |
| 4. Nates. | 10. Lobus Quadratus. |
| 5, 9. Superior Vermiform Process. | 11. Lobus Semilunaris Superior. |
| 6. Lobus Centralis. | 12. Lobus Semilunaris Inferior |
| 7. Monticulus Cerebelli. | |

FIG. III. DIRECTION OF FIBRES IN THE CEREBELLUM.

- | | |
|------------------------------|----------------------------------|
| 1. Crura Cerebri. | 6. Fifth Cranial Nerve. |
| 2. Nates. | 7. Deep Fibres of Pons Varolii. |
| 3. Laqueus. | 8. Superficial Fibres of Pons. |
| 4. Velum Medullare Anterius. | 9. Deep Branches to Hemispheres. |
| 5. Lingula. | |

FIG. IV. SAME AS FIG. III.

FIG. V. FIBRES OF PEDUNCLES OF THE CEREBELLUM AND PONS VAROLII.

- | | |
|---------------------|--------------------------------------|
| 1. Crura Cerebelli. | 2. { Its Fibres which pass to the |
| | 3. { Various Lobes of the Cerebellum |

FIG. VI.

- | | |
|---|---|
| 1. Medulla Oblongata. | 14. Continuation of 6 through the Pons. |
| 2. Pyramid. | 15. Superficial Fibres of Pons Varolii. |
| 3. Fasciculus Arciformis. | 16. Deep Fibres of Pons. |
| 4. Olive. | 17. Olivary Fasciculus. |
| 5. Restiform Body. | 18. Fasciculus Teres. |
| 6. Crura Cerebelli. | 19. { Anterior Fibres of |
| 7, 8. { Arbor Vitæ formed by | 20. { Crura Cerebri. |
| 9. { Crura Cerebri et Cerebelli. | 21. Corpora Albicantia. |
| 10. Fibres passing to Cerebellum. | 22. Nates. |
| 11. Portion lying under Corpora Quadrigemina. | 23. Brachia. |
| 12. Horizontal Fibres. | 24. Testes. |
| 13. Pyramids. | |

FIG. VII. NERVE SUBSTANCE.

- | | |
|---|--------------------------------|
| a. Cranial Nerve, after death. | d. Nerve Fibre during life. |
| b. Cellular Substance of Brain. | 1. Its covering. |
| c. Peripheral Nerve, modified by death. | 2. White substance of Schwann. |

FIG. VIII. GANGLIONIC CELLS FROM THE SEMILUNAR GANGLION OF THE FIFTH CRANIAL NERVE.

- | | |
|----------------------------|----------------------------------|
| a. Nerve Fibre. | 2. Nucleus. |
| b. Round Ganglionic Cells. | 3. Nucleolus. |
| c. Oval Ganglionic Cells. | d. Position of Ganglionic Cells. |
| 1. Granular Substance. | |

FIG. IX. ORIGIN OF THE OLFACTORY NERVE.

- | | |
|---|----------------------|
| 1. Frontal Lobe. | 3. Optic Commissure. |
| 2. Convolution of the Longitudinal Fissure. | 4. Optic Tract. |
| | 5. Optic Nerve. |

- | | |
|--------------------------------------|-------------------------------------|
| 6. Anterior Perforated Space. | 10. Gray Nucleus Forming Origin of— |
| 7. Internal Root of Olfactory Nerve. | 11. Olfactory Nerve. |
| 8. Long Root of Same. | 12. Its Bulb. |
| 9. Gray or Middle Root. | |

FIG. X. OPTIC COMMISSURE.

- | | |
|--------------------|---------------------|
| a. Anterior View. | 2. Commissure. |
| b. Posterior View. | 3, 4. Optic Nerves. |
| 1. Optic Tract. | |

FIG. XI. ORIGIN OF THE OPTIC NERVE.

- | | |
|----------------------------------|---|
| 1. Corpus Callosum. | 9. Thalamus Opticus. |
| 2. Tapetum. | 10. Corpus Geniculatum Externum. |
| 3. Hippocampus Major. | 11. Optic Tract. |
| 4. Tænia Semi circularis. | 12. Optic Commissure. |
| 5. Posterior Crus of the Fornix. | 13. Optic Nerve. |
| 6. Body of the Fornix. | 14. Retina. |
| 7. Anterior Crus of the Fornix. | 15, 16. Fibres passing from one Eye to the other. |
| 8. Corpora Albicantia. | |

FIG. XII. NERVES OF THE EYE.

- | | |
|-----------------------------|---|
| a. Frontal Bone. | 1. Optic Nerve. |
| b. Frontal Sinus. | 2. Motor Oculi. |
| c. Ethmoid Bone. | 3. Branch to Rectus Superior. |
| d. Sella Turcica. | 4. Branch to Internal and Inferior Recti. |
| e. Malar Bone. | 5. Trochlearis Nerve. |
| f. Lachrymal Gland. | 6. Trifacial Nerve. |
| g. Upper Eyelids. | 7. Casserian Ganglion. |
| h. Superior Oblique Muscle. | 8. { Ophthalmic Division of the |
| i. Its Pulley. | 9. { Fifth Nerve. |
| k. Its Tendon. | 10. Nasal Nerve. |
| l. Levator Palpebræ Muscle. | 11. Lachrymal Nerve. |
| m. Rectus Superior Muscle. | 12. Superior Maxillary Division. |
| n. Inferior Rectus Muscle. | 13. Abducens Nerve. |
| o. External Rectus Muscle. | 14. Ophthalmic Ganglion. |
| p. Sphenoidal Sinus. | 15. Ciliary Nerve. |
| q. Internal Carotid Artery. | 16. Ciliary Branch of Nasal Nerve. |
| r. Eyeball. | |

PLATES VII AND VIII.

FIG. I. A SECTION OF THE SPINAL CORD, INCLUDING THE LOWER END OF THE CERVICAL AND UPPER END OF THE DORSAL PORTIONS. ANTERIOR ASPECT.

- | | |
|-------------------------|----------------------------------|
| 1. Dura Mater. | 4. Cervical enlargement of Cord. |
| 2. Ligamentum Dentatum. | 5. Anterior Median Fissure. |
| 3. Spinal Cord. | 6. Anterior Column. |

- | | |
|----------------------|--------------------------------------|
| 7. Lateral Column. | 10. Anterior Roots of Spinal Nerves. |
| 8. Posterior Column. | 11. Posterior Roots of same. |
| 9. Spinal Canal. | 12. Spinal Nerves. |

FIG. II. LOWER PORTION OF THE SPINAL CORD.

- | | |
|-------------------------------------|---------------------|
| 1. Spinal Marrow. | 5. Posterior Roots. |
| 2. Cauda Equina. | 6. Their Union. |
| 3. Filum Terminale. | 7. Dura Mater. |
| 4. Anterior Roots of Spinal Nerves. | |

FIG. III. TRANSVERSE SECTION OF THE MEDULLA OBLONGATA ABOVE THE ORIGIN OF THE FIRST CERVICAL NERVES; ENLARGED.

- | | |
|----------------------------------|--|
| 1. Anterior Median Fissure. | 8. Posterior Horn of Gray Matter. |
| 2. Posterior Median Fissure. | 9. Gelatinous Substance. |
| 3. Spinal Canal. | 10. Anterior Roots of Spinal Nerves. |
| 4. Anterior Pyramids. | 11. Posterior Roots of same. |
| 5. Lateral Tracts. | 12. Origin of Nervus Accessorius Willisii. |
| 6. Posterior Pyramids. | 13. Gray Commissure. |
| 7. Anterior Horn of Gray Matter. | |

FIG. IV. TRANSVERSE SECTION OF SPINAL CORD.

- | | |
|-------------------------------|---------------------------------------|
| 1. Anterior Median Fissure. | 7. Anterior Horn of Gray Matter. |
| 2. Posterior Median Fissure. | 8. Posterior Horn of Gray Matter. |
| 3. Spinal Canal. | 9. White Substance of Cord. |
| 4. Commissura Anularis. | 10. Posterior Roots of Spinal Nerves. |
| 5. Anterior Gray Commissure. | 11. Anterior Roots of same. |
| 6. Posterior Gray Commissure. | |

FIG. V. TRANSVERSE SECTION OF MEDULLA OBLONGATA AND SPINAL CORD.

- | | |
|--------------------------------|-------------------------------------|
| a. Section of Nates. | 8. Gray Nucleus. [the Pons Varolii. |
| 1, 2, 3. Crura Cerebri. | c. Section of Medulla Oblongata at |
| 4. Locus Niger. | 1. Anterior Pyramids. |
| 5. Posterior Perforated Space. | 2. Anterior Median Fissure. |
| 6. Aquæductus Sylvii. | 3, 4. Olivary Body. |
| 7. Gray Matter. | 5. Restiform Body. |
| 8. Testes. | 6. Gray Substance. |
| 9, 10. White Matter. | 7. Eminentiae Teretes. |
| b. Section of Testes. | 8. Fourth Ventricle. |
| 1. Pons Varolii. | d. Section of Middle Medulla. |
| 2. Locus Niger. | 1-3. Same as previous figure. |
| 3. Tegmentum. | 4. Corpus Dentatum. |
| 4. Fasciculi Teretes. | 5, 8. Same as preceding figure. |
| 5. Aquæduct of Sylvius. | e. Transverse section of Medulla |
| 6. Nates. | Oblongata behind the Fourth |
| 7. White Substance. | Ventricle. |

- | | |
|---|--|
| 1. Anterior Median Fissure. | <i>g, o.</i> Section of Spinal Cord from |
| 2. Posterior Median Fissure. | Cervical Portion to Filum |
| 3. Anterior Pyramids. | Terminale. |
| 4. Olivary Fasciculi. | 1. Anterior Median Fissure. |
| 5. Restiform Bodies. | 2. Posterior Median Fissure. |
| 6. Canal of Medulla Oblongata. | 3. Anterior Column. |
| 7. Gray Center. | 4. Lateral Column. |
| 8. Anterior Gray Bodies. | 5. Posterior Column. |
| 9. Posterior Gray Bodies. | 6. Gray Substance. |
| <i>f.</i> Section of Medulla Oblongata. | 7. Anterior Horn. |
| Figures same as in preceding. | 8. Posterior Horn. |

FIG. VI. DISTRIBUTION OF NERVE FIBRES TO THE MUSCLES.

- | | |
|------------------------------|-------------------------------------|
| 1. Voluntary Muscular Fibre. | 3. Distribution of Nerve Fibrils in |
| 2. Nerve. | Loops. |

FIG. VII.

- | | |
|---|-----------------------------------|
| <i>a.</i> Pacinian Corpuscles on the | 1. Nerve Branchlets. |
| Palmar Surface of the Hand. | 2. Central Portion. |
| 1. Nerve Branchlet. | 3. Concentric Envelopes. |
| 2. Pacinian Corpuscles. | 4. Processes penetrating the sur- |
| 3. The Terminal ends of the Nerves. | rounding Tissues. |
| <i>b, c.</i> Pacinian Corpuscles Magnified. | |

FIG. VIII. ORIGIN OF THE TRIGEMINUS NERVE.

- | | |
|-----------------------------------|----------------------------------|
| 1. Crura Cerebri. | 12. Ophthalmic Nerve. |
| 2. Corpora Quadrigemina. | 13. Superior Maxillary Nerve. |
| 3. Laqueus. | 14. Inferior Maxillary Nerve. |
| 4. Crura Cerebelli. | 15. Casserian Ganglion. |
| 5. Fourth Ventricle. | 16. Sensory Root of Fifth Nerve. |
| 6. Calamus Scriptorius. | 17. Motor Root of Fifth Nerve. |
| 7. Gray Wings. | 18. Course of Nerve. |
| 8. Crura Cerebri et Cerebelli. | 19. Auditory Nerve. |
| 9. Crus ad Medullam Oblongatum. | 20. Facial Nerve. |
| 10. Posterior Portion of Medulla. | 21. Pneumogastric Nerve. |
| 11. Trifacial Nerve. | |

FIG. IX. FIFTH NERVE AND CASSERIAN GANGLION; INFERIOR ASPECT.

FIG. X. BRANCHES OF THE SECOND and THIRD DIVISIONS
OF THE FIFTH NERVE.

- | | |
|---------------------------|---------------------------------------|
| <i>a.</i> Frontal Bone. | <i>e.</i> Mastoid Portion of Temporal |
| <i>b.</i> Frontal Sinus. | Bone. |
| <i>c.</i> Occipital Bone. | <i>f.</i> Mastoid Process. |
| <i>d.</i> Parietal Bone. | <i>g.</i> Fallopian Tube. |

- | | |
|---|---|
| <ul style="list-style-type: none"> <i>h.</i> Petrous Portion of Temporal Bone. <i>i.</i> Tympanum. <i>k.</i> Ossicula Auditus. <i>l.</i> Orbit. <i>m.</i> Antrum of Highmore. <i>n.</i> Lower Jaw. <i>o.</i> Rectus Capitis Posticus Major Muscle. <i>p.</i> Obliquus Inferior Muscle. <i>q.</i> Spinalis Cervicis Muscle. <i>r.</i> Levator Anguli Scapulæ Muscle. <i>s.</i> Rectus Capitis Anticus Muscle. <i>t.</i> Tensor Palati Muscle. <i>u.</i> Superior <i>v.</i> Middle } Pharyngeal Constrictor <i>w.</i> Inferior } Muscles. <i>x.</i> Stylo-pharyngeus Muscle. <i>y.</i> Levator Anguli Oris Muscle. <i>z.</i> Orbicularis Oris Muscle. <i>a.</i> Tongue. <i>β.</i> Genio-glossus Muscle. <i>γ.</i> Sublingual Gland. <i>δ.</i> Submaxillary Gland. <i>ε.</i> Common Carotid Artery. <i>ζ.</i> External Carotid Artery. | <ul style="list-style-type: none"> <i>γ.</i> Internal Carotid Artery. <i>δ.</i> Superior Thyroid Artery. <i>ι.</i> Occipital Artery. <i>α.</i> Temporal Artery. 1. Trigeminus Nerve. 2. Ophthalmic Division. 3. Superior Maxillary Division. 4. Inferior Maxillary Division. 5. Descending Branch of 3. 6. Posterior Dental Nerve. 7. Infraorbital Nerve. 8. Superficial Temporal Branch. 9. Deep Temporal Branch. 10. Masseteric Branch. 11. Buccal Nerve. 12. Inferior Maxillary Nerve. 13. Lingual Branch. 14. Maxillary Ganglion. 15. Abducens Nerve. 16. Carotid Branches. 17. Facial Nerve. 18. Facial Branch. 19. Chorda Tympani. 20. Hypoglossal Nerve. 21. Pneumogastric Nerve. |
|---|---|

PLATES IX AND X.

DISTRIBUTION OF THE FIFTH CRANIAL NERVE.

FIG. I.

- | | |
|--|--|
| <ul style="list-style-type: none"> <i>a.</i> Frontal Bone. <i>b.</i> Sella Turcica. <i>c.</i> Zygomatic Process of Temporal Bone. <i>d.</i> Condylod Process of Lower Jaw. <i>e.</i> Fallopian Tube. <i>f.</i> Superior <i>g.</i> Posterior } Semi circular Canals. <i>h.</i> External } <i>i.</i> Occipital Bone. <i>k.</i> Vidian Canal. <i>l.</i> Pterygoid Process. <i>m.</i> Zygoma. <i>n.</i> Antrum. | <ul style="list-style-type: none"> <i>o.</i> Inferior Maxilla. <i>p.</i> Its Cancellous Tissue Exposed. <i>q.</i> Falx Cerebelli. <i>r.</i> Tentorium Cerebelli. <i>s.</i> Nasal Cartilages. <i>t.</i> Eye ball. <i>u.</i> Lachrymal Gland. <i>v.</i> Meatus Auditorius Externus. <i>w.</i> Larynx. <i>x.</i> Thyroid Gland. <i>y.</i> Frontalis <i>z.</i> Orbicularis Palpebrarum <i>α.</i> Compressor Naris <i>β.</i> Orbicularis Oris |
|--|--|
- } Muscles.

- | | | |
|--|----------|--|
| <ul style="list-style-type: none"> γ. Quadratus Menti δ. Buccinator ε. Superior Oblique ζ. Obliquus Inferior η. Levator Palpebræ θ. Rectus Superior ι. Rectus Inferior κ. Pterygoideus Internus λ. Digastric μ. Stylo-glossus ν. Mylo-hyoid ξ. Sterno-hyoid ο. Thyro-hyoid π. Constrictor Pharyngeus ρ. Common Carotid Artery. σ. External Carotid Artery. τ. Internal Carotid Artery. υ. Superior Thyroid Artery. φ. Superior Laryngeal Artery. χ. Facial Artery. ψ. Superior Coronary Artery. ω. Inferior Coronary Artery. 1. Infraorbital Artery. 2. Angular Artery. 3. Ophthalmic Artery. 4. Inferior Palpebral Artery. 5. Nasal Artery. 6. Frontal Artery. 7. Supraorbital Artery. 8. Superficial Temporal Artery. 9. Internal Maxillary Artery. 10. Middle Meningeal Artery. 11. Inferior Dental Artery. 12. Infraorbital Artery. 13. Temporal Artery. 14. Occipital Artery. 15. Ophthalmic Artery. 16. Optic Nerve. 17. Motor Oculi Nerve. 18. Branches to Muscles of the Eye. 19. Communicating Branch to 20. 20. Ciliary Ganglion. 21. Trochlearis Nerve. 22. Abducens Nerve. 23. Facial Nerve. 24. Digastric Branch. | Muscles. | <ul style="list-style-type: none"> 25. Zygomatic Branch. 26. Superior Facial Branch. 27. Middle Facial Branch. 28. Inferior Facial Branch. 29. Descending Branch. 30. Cutaneous Branch. 31. Cutaneous Cervical Branch. 32. Pneumogastric Nerve. 33. Internal Laryngeal Nerve. 34. External Laryngeal Nerve. 35. Hypoglossal Nerve. 36. Descending Branch. 37. Superior Cervical Ganglion
(Sympathetic.) 38. Sympathetic Nerve. 39. Trigeminus Nerve. 40. Casserian Ganglion. 41. Ophthalmic Division. 42. Frontal Nerve. 43. Branch to Frontal Sinus. 44. Supratrochlearis Nerve. 45. Branch of 44. 46. Supraorbital Nerve. 47. Frontal Branch of 46. 48. Nasal Branch. 49. Branch to Ciliary Ganglion. 50. Infratrochlearis Nerve. 51. Ethmoidal Branch. 52. Communicating Branch. 53. Lachrymal Nerve. 54. Superior Maxillary Division. 55. Cutaneous Nerve. 56. Communicating Branch to 53. 57. Communicating Branch to 23. 58. Spheno-palatine Ganglion. 59. Vidian Nerve. 60. Palatine Nerve. [Artery. 61. Loops around Internal Maxillary 62. Buccal Branch. 63. Posterior Dental Nerve. 64. Communicating Buccal Branch
to 38. 65. Communicating Branch to Infra-
orbital. 66. Infraorbital Nerve. 67. Communicating Branch to 63. |
|--|----------|--|

- | | |
|---------------------------------------|--|
| 68. Anterior Dental Nerve. | 91. Mylo-hyoid Branch. |
| 69. Anastomosis with 63. | 92. Dental Branch. |
| 70. Dental Branch. | 93. Mental Branch. |
| 71. Inferior Palpebral Branch. | 94. Communicating with 92. |
| 72. Superior Cutaneous Nasal Branch. | 95. Labial Nerve. |
| 73. Inferior Cutaneous Nasal Branch. | 96. Mental Branches. |
| 74. Labial Nerve. | 97. Branch of Glosso-pharyngeus to Nervi Molles. |
| 75. Inferior Maxillary Division. | 98. Superficial Cardiac Nerve. |
| 76. Masseteric Branch. | 99. Superior Thyroid, (Sympathetic Nerve.) |
| 77. Deep Temporal Branch. | 100. Branch to Superior Laryngeal Artery. |
| 78. Buccal Nerve. | 101. Branch to Facial Artery. |
| 79. Its Loops around 9. | 102. Anastomosis with Inferior Maxillary. |
| 80. Anastomosis with 23. | 103. Branch to External Carotid Artery. |
| 81. Anterior Articular Branch. | 104. Communicating Branch to Digastric. |
| 82. Superficial Temporal Nerve. | 105. Branch to Internal Maxillary Artery. |
| 83. Communication with 23. | 106. Junction with Posterior Dental Nerve. |
| 84. Branch to External Meatus of Ear. | 107. Branch to Temporal Artery. |
| 85. Ascending Branch. | 108. Branch to Occipital Artery. |
| 86. Tympanic Branch. | |
| 87. Auricular Branch. | |
| 88. Articular Branch. | |
| 89. Lingual Nerve. | |
| 90. Inferior Dental Nerve. | |

FIG. II. BRANCHES OF THE FIFTH NERVE.

- | | |
|-------------------------------------|-----------------------------|
| a. Frontal Bone. | t. Lower Maxilla. |
| b. Temporal Bone. | u. Os Hyoides. |
| c. Meatus Auditorius. | v. Superior Oblique Muscle. |
| d. Tympanum. | w. Its Pulley. |
| e. Malleus. | x. Tarsal Cartilage. |
| f. Superior } Semi circular Canals. | y. Caruncula Lachrymalis. |
| g. Posterior } | z. Lachrymal Sac. |
| h. External } | a. Eustachian Tube. |
| i. Styloid Proces. | β. Cartilage of Ear. |
| k. Occipital Bone. | γ. Mylo-hyoid Muscle. |
| l. Carotid Canal. | δ. Sterno-hyoid Muscle. |
| m. Vidian Canal. | ε. Thyro-hyoid Muscle. |
| n. Orbital Plate of Ethmoid Bone. | ζ. Hyo-glossus Muscle. |
| o. Lachrymal Bone. | η. Pharynx. |
| p. Superior Maxilla. | θ. Gums. |
| q. Inferior Margin of Orbit. | ι. Common Carotid Artery. |
| r. Infraorbital Foramen. | κ. External Carotid Artery. |
| s. Antrum. | λ. Internal Carotid Artery. |

- μ. Superior Thyroid Artery.
- ν. Superior Laryngeal Artery.
- ξ. Lingual Artery.
- ο. Facial Artery.
- π. Submental Artery.
- ρ. Ascending Palatine Artery.
- ς. Ascending Laryngeal Artery.
- υ. Tarsal Artery.
- φ. Frontal Artery.
- χ. Superficial Temporal Artery.
- ψ. Infraorbital Artery.
- 1. Optic Nerve.
- 2. Motor Oculi.
- 3, 4. Superior and Inferior Branches.
- 5. Branch to 6.
- 6. Ciliary Ganglion.
- 7. Ciliary Nerves.
- 8. Trochlearis Nerve.
- 9. Abducens Nerve.
- 10. Facial Nerve.
- 11. Exit from Stylo-mastoid Foramen.
- 12. Glosso-pharyngeus Nerve.
- 13, 14. Superior and Inferior Branches.
- 15. Pharyngeal Branches.
- 16. Pneumogastric Nerve.
- 17. Pharyngeal Branch.
- 18. Internal Laryngeal Nerve.
- 19. External Laryngeal Nerve.
- 20. Nervus Accessorius Willisii.
- 21. Hypoglossal Nerve.
- 22. Descending Ramus.
- 23. Branch to Thyro-hyoid Muscle.
- 24. Ophthalmic Division of Trigem-
inus.
- 25. Frontal Branch.
- 26. Branch to Frontal Sinus.
- 27. Branch to 35.
- 28. Supraorbital Nerve.
- 29. Cutaneous Branches.
- 30. Supratrochlear Branch.
- 31. Nasal Branch.
- 32. Branch to Ciliary Ganglion.
- 33. Branch to 27.
- 34. Ethmoidal Branch.
- 35. Infratrochlear Branch.
- 36. Branch to Lachrymal Sac.
- 37. Branch to Tarsal Artery.
- 38. Junction of 30 and 35.
- 39. Lachrymal Nerve.
- 40. Superior Maxillary Division.
- 41. Cutaneous Nerve of the Cheek.
- 42. Spheno-palatine Ganglion.
- 43. Vidian Nerve.
- 44. Superficial Branch.
- 45. Junction with Facial Nerve.
- 46. Deep Branch.
- 47. Pharyngeal Branch.
- 48. Spheno-palatine Branch.
- 49. Branch from 42 to 9.
- 50. Palatine Nerve.
- 51. Branch supplying Internal Max-
illary Artery.
- 52. Branch of Palatine Nerve.
- 53. Inner Division of same.
- 54. Posterior Dental Nerve.
- 55. Posterior Branch of 54.
- 56. Alveolar Branch.
- 57. Branch to Anterior Dental
Nerves.
- 58-62. Dental Nerves to Teeth.
- 63. Infraorbital Nerve.
- 64. Branch joining 54 and 65 to 63.
- 65. Anterior Dental Nerve.
- 66. Branch communicating with 54.
- 67. Buccal Branch.
- 68. Dental Branches.
- 69-75. Branches supplying Teeth
and Gums.
- 76. Nasal Branch.
- 77. Inferior Maxillary Division.
- 78. Masseteric Branch.
- 79. Deep Temporal Branch.
- 80. Buccal Branch.
- 81, 82. Auricular Branches.
- 83. Branch joining the Facial Nerve.
- 84. Branch to Auditory Meatus.
- 85. Ascending Branch.
- 86. Tympanic Branch.
- 87. Auditory Branch.
- 88. Lingual or Gustatory Nerve.

- | | |
|--|---|
| 89. Chorda Tympani. | 104. Branches to Superior Thyroid Artery. |
| 90. Pharyngeal Branch. | 105. Branches to Lingual Artery. |
| 91. Inferior Dental Nerve. | 106. Branches to Facial Artery. |
| 92. Mylo-hyoid Branch. | 107. Branches to Ascending Palatine Artery. |
| 93. Dental Branch. | 108. Pharyngeal Plexus. |
| 94. Branches to the Gums. | 109. Ascending Branch from 12 to 99. |
| 95. Branches to the Teeth. | 110. Anterior Branch of 99. |
| 96. Mental Branch of 91. | 111. Posterior Branch of 99. |
| 97. Superior Cervical Ganglion. | 112. Branch of 12 to 10 and 111. |
| 98. Communicating Branches to Pneumogastric. | 113. Sympathetic Nerve. |
| 99. Sympathetic Nerve. | 114. Branch to 2. |
| 100. Superficial Cardiac Nerve. | 115. Branches to Internal Carotid Artery. |
| 101. Nervus Mollis. | |
| 102. Pharyngeal Branch. [12 to 19. | |
| 103. Communicating Branch from | |

FIG. III.

- | | |
|--|---|
| <i>a.</i> Upper Maxillary. | 12. Deep Branch of 10. |
| <i>b.</i> Palatine Process. | 13. Deep Petrosal Nerve. |
| <i>c.</i> Pterygoid Process. | 14. Pterygo-palatine Nerve. |
| <i>d.</i> Occipital Bone. | 15. Anterior Palatine Branch. |
| <i>e.</i> Lower Jaw. | 16. Internal Palatine Branch. |
| <i>f.</i> Common Carotid Artery. | 17. External Palatine Branch. |
| <i>g.</i> External Carotid Artery. | 18. Naso-palatine Nerve. |
| <i>h.</i> Internal Carotid Artery. | 19. Posterior Nasal Branches. |
| <i>i.</i> Vertebral Artery. | 20. Branch from 9 to Optic Nerve. |
| <i>k.</i> Internal Pterygoid Muscle. | 21. Anterior Branch of Sympathetic. |
| <i>l.</i> Velum Palati. | 22. Posterior Branch of Sympathetic. |
| <i>m.</i> Pharynx. | 23. Posterior Dental Nerve. |
| <i>n.</i> Submaxillary Gland. | 24. Middle Dental Branches. |
| 1. Branch of Motor Oculi to Sympathetic. | 25. Infraorbital Nerve. |
| 2. Abducens Nerve. | 26. Inferior Maxillary Division of 4. |
| 3. Branch of 2 to Sympathetic. | 27. Superficial Temporal Nerve. |
| 4. Trigemini. | 28. Gustatory Nerve. |
| 5. Casserian Ganglion. | 29. Branch to Meckel's Ganglion. |
| 6. Superior Maxillary Division of 4. | 30. Branch to Lingual Plexus. |
| 7. Cutaneous Branch to the Cheek. | 31. Inferior Maxillary Nerve. |
| 8. Spheno-palatine Nerve. | 32. Mylo-hyoid Branch. |
| 9. Spheno-palatine Ganglion. | 33. Dental Branches. |
| 10. Vidian Nerve. | 34. Temporal Branches. |
| 11. Superficial Petrous Branch of 10. | 35. Branch to Ophthalmic Division of 4. |

- | | |
|--|------------------------------------|
| 36. Branch to Superior Maxillary Division. | 53. Branch from Sympathetic to 51. |
| 37. Branch to Inferior Maxillary Division. | 54. Jacobson's Nerve. |
| 38. Branch from 5 to Otic Ganglion. | 55. Branch to Foramen Rotundum. |
| 39. Internal Pterygoid Nerve. | 56. Branch to Foramen Ovale. |
| 40. Small Petrosal Nerve. | 57. Branch from 54 to Sympathetic. |
| 41. Branch from 73 to 44. | 58. Tympanic Branch. |
| 42. Buccal Nerve. | 59. Pharyngeal Nerve. |
| 43. Facial Nerve. | 60. Pharyngeal Branches. |
| 44. Chorda Tympani. | 61. Pneumogastric Nerve. |
| 45. Branch joining 44 to 28. | 62. Jugular Ganglion. |
| 46. Meckel's Ganglion. | 63. Hypoglossal Nerve. |
| 47. Branch from Maxillary Ganglion to Sympathetic. | 64. Nervus Accessorius Willisii. |
| 48. Branches to Submaxillary Gland. | 65. Sympathetic Nerve. |
| 49. Branches to Stapedius Muscle. | 66. Inferior Carotid Ganglion. |
| 50. Glosso-pharyngeus Nerve. | 67. Superior Cervical Ganglion. |
| 51. Petrosal Ganglion. [to 51. | 68. Nervi Molles. |
| 52. Branch from Jugular Ganglion | 69. Vertebral Nerve. |
| | 70. Branch from 65 to 62. |
| | 71. Branch from 62 to 54 and 43. |
| | 72. Branch from 64 to 65. |
| | 73. Otic Ganglion. |

FIG. IV.

- | | |
|--|--|
| a. Frontal Bone. | 8. Spheno-palatine Nerve. |
| b. Ethmoid Bone. | 9. Spheno-palatine Ganglion. |
| c. Ethmoidal Foramen. | 10. Vidian Nerve. |
| d. Lachrymal Bone. | 11. Superficial Branch. |
| e. Fossa Lachrymalis. | 12. Deep Branch. |
| f. Maxillary Process of Malar Bone. | 13. Pterygoid Branch. |
| g. Superior Maxillary Bone. | 14. Pharyngeal Branch. |
| h. Alveolar Process. | 15. Posterior Dental Nerve. |
| i. Antrum of Highmore. | 16. Anterior Dental Nerve. |
| k. Infraorbital Foramen. | 17. Maxillary Ganglion. |
| l. Body of Sphenoid Bone. | 18. Dental Branches. |
| m. Foramen Rotundum. | 19. Osseous Branch. |
| n. Petrous Portion of Temporal Bone. | 20. Nasal Branch. |
| o. Internal Carotid Artery. | 21. Middle Dental Nerve. |
| p. Ophthalmic Artery. | 22. Communicating Branch from 9 to 17. |
| 1. Motor Oculi Nerve. | 23. Branch to Antrum. |
| 2. Casserian Ganglion. | 24. Infraorbital Nerve. |
| 3. Ophthalmic Division of the Trigemini. | 25. Abducens Nerve. |
| 4. Ethmoidal Branch. | 26. Descending Branches of Sympathetic. |
| 5. Lachrymal Nerve. | 27. Communicating Branch from 1 to 3 and 25. |
| 6. Superior Maxillary Nerve. | |
| 7. Cutaneous Malar Branch. | |

FIG. V.

- | | |
|--|--|
| <ul style="list-style-type: none"> <i>a.</i> Superior Maxillary Bone. <i>b.</i> Greater Wings of Sphenoid. <i>c.</i> Squamous Portion of Temporal. <i>d.</i> Zygomatic Arch. <i>e.</i> Mastoid Process. <i>f.</i> Styloid Process. <i>g.</i> Pterygoid Process. <i>h.</i> Antrum. <i>i.</i> External Auditory Meatus. <i>k.</i> Foramen Ovale. <i>l.</i> Common Carotid Artery. <i>m.</i> External Carotid Artery. <i>n.</i> Internal Carotid Artery. <i>o.</i> Superior Thyroid Artery. <i>p.</i> Lingual Artery. <i>q.</i> Facial Artery. <i>r.</i> Ascending Pharyngeal Artery. <i>s.</i> Temporal Artery. <i>t.</i> Transverse Facial Artery. <i>u.</i> Internal Maxillary Artery. | <ul style="list-style-type: none"> <i>v.</i> Middle Meningeal Artery. <i>w.</i> Inferior Dental Artery. <i>x.</i> Deep Temporal Artery. <i>y.</i> Superior Dental Artery. <i>z.</i> Infraorbital Artery. <i>a.</i> Parotid Gland. 1. Facial Nerve. 2. Superficial Temporal Nerve. 3. Nervi Molles. 4. Temporal Ganglion. Sympathetic. 5. Parotid Branch. 6. Auditory Branch. 7. Temporal Branch. 8. Maxillary Branch. 9. Facial Branch to Temporal Ganglion. 10. Branch from 2 to 4. 11. Branch from Sympathetic Nerve to 4. 12. Articular Branch. |
|--|--|

PLATES XI AND XII.

NERVES OF THE FACE.

- | | | | |
|---|---|----------|---|
| <ul style="list-style-type: none"> <i>a, b.</i> Occipito-frontalis Muscle. <i>c.</i> Retrahens Aurem Muscle. <i>d.</i> Attolens Aurem Muscle. <i>e.</i> Temporal Muscle. <i>f.</i> Orbicularis Palpebrarum <i>g.</i> Compressor Naris <i>h.</i> Levator Anguli Oris <i>i.</i> Zygomaticus Major <i>k.</i> Buccinator <i>l.</i> Masseter <i>m.</i> Orbicularis Oris <i>n.</i> Quadratus Menti <i>o.</i> Sterno-cleido-mastoid <i>p.</i> Steno's Duct. <i>q.</i> Submaxillary Gland. <i>r.</i> External Carotid Artery. <i>s.</i> Temporal Artery. <i>t.</i> External Jugular Vein. <i>u.</i> Temporal Vein. | } | Muscles. | <ul style="list-style-type: none"> 1. Frontal Branch of Trigemini. 2. Supratrochlearis. 3. Cutaneous Frontal Branch. 4. Infratrochlear Nerve. 5. Infraorbital Nerve. 6, 7. Cutaneous Malar Branches. 8. Cutaneous Temporal Branch. 9. Mental Branch of Inferior Dent- 10. Buccal Branch. [al.] 11. Portio Dura. 12. Posterior Auricular Branch. 13. Deep Branch. 14. Descending Branch. 15. Superior Branch. 16. Middle Facial Branch. 17. Auricular Branch of Third Cervical Nerve. 18. Middle Cutaneous Nerve of Neck. |
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PLATES XIII AND XIV.

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|---|---|
| <p> <i>A.</i> Internal Jugular Vein.
 <i>B.</i> Inferior Thyroid Vein.
 <i>C.</i> Common Carotid Artery.
 <i>D.</i> External Carotid Artery.
 <i>E.</i> Superior Thyroid Artery.
 <i>F.</i> Internal Carotid Artery.
 <i>G.</i> Mylo-hyoid Muscle.
 <i>H.</i> Genio-Hyoid Muscle.
 <i>I.</i> Genio-glossus Muscle.
 <i>K.</i> Tongue.
 <i>L.</i> Stylo-glossus Muscle.
 <i>M.</i> Stylo-pharyngeus Muscle.
 <i>N.</i> Digastric Muscle.
 <i>O.</i> Stylo-hyoid Muscle.
 <i>P.</i> Internal Pterygoid Muscle.
 <i>Q.</i> Masseter Muscle.
 <i>R.</i> Hyo-glossal Muscle.
 <i>S.</i> Thyro-hyoid Muscle.
 <i>T.</i> Crico-thyroid Muscle.
 <i>U, U.</i> Sterno-hyoid and Sterno-thyroid of the Left Side. [cle.
 <i>V.</i> Obliquus Capitis Superior Mus.
 <i>W.</i> Splenius Capitis Muscle.
 <i>X.</i> Levator Anguli Scapulæ Muscle.
 <i>Y.</i> Rectus Capitis Anticus Major Muscle.
 <i>Z.</i> Buccinator Muscle.
 <i>a, a.</i> Superior Pharyngeal Constrictor.
 <i>b, b.</i> Middle Pharyngeal Constrictor.
 <i>c, c.</i> Inferior Pharyngeal Constrictor.
 <i>d.</i> Right Cornu of Os Hyoides.
 <i>e.</i> Thyro-hyoid Ligament.
 <i>f.</i> Thyroid Cartilage.
 <i>g.</i> Thyroid Gland.
 <i>h.</i> Right Tonsil.
 <i>i.</i> Styloid Process of Temporal.
 <i>k.</i> Suprahyoid Aponeurosis.
 <i>l.</i> Parotid Gland.
 <i>m.</i> Zygomatic Process.
 <i>n.</i> Cervical Intervertebral Substance.
 <i>o.</i> Mastoid Process of Temporal Bone.
 <i>p.</i> Cartilaginous External Auditory Meatus. </p> | <p> <i>q.</i> Mucous Follicles of Mouth and Root of the Tongue.
 <i>r.</i> Fleshy Portion of the Tongue.
 1. Glosso-pharyngeus Nerve.
 2. Anastomosing Branch with 3.
 3. Digastric Branch Communicating with the Facial Nerve.
 4. Pharyngeal Branch Communicating with Pharyngeal Branch of Pneumogastric.
 5, 6. Carotid Branches.
 7, 8. Origin of 5 and 6.
 9. Communicating Branch with Sympathetic Filaments from the Superior Cervical Ganglion.
 10. Anastomosing Carotid Branches.
 11. Branch to Superior Thyroid Artery.
 12. Anastomosing Branch to Superficial Cardiac Nerve.
 13, 14, 15. Pharyngeal Branches.
 16. Larger Branch of Glosso-pharyngeus Giving Origin to
 17. The Branch to the Stylo-pharyngeus Muscle Proper.
 18. Smaller or External Lingual Branch.
 19. Occasional Branch of 18.
 20. Tonsillar Branch.
 21, 22. Lateral Lingual Branch.
 23. Glosso-pharyngeal Branches to Superior Constrictor and Epiglottis.
 24. Deep Lingual Branches of 1.
 25. Spinal Accessory.
 26. External Branch of 25.
 27. Internal Branch of 25.
 28. Anastomosis of Branches of 27 and the Pneumogastric Nerve.
 29. Pharyngeal Branch of Pneumo-
 30. Pharyngeal Plexus. [gastric.
 31-33. Ascending Branches of 30 to Superior Constrictor. </p> |
|---|---|

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|---|---|
| <p>34. Branches of 30 Passing with 1.
 35. Branches of 30 to Middle Constrictor.
 36. Descending Branches of 30.
 37-40. Descending Branches to Inferior Constrictor.
 41. Descending Branch of 30 which joins the External Laryngeal and the Intercostal Nerve.
 42. Internal Laryngeal Branch of Pneumogastric Nerve.
 43. Anastomosis of 42 and 1.
 44. Anastomosis of 42 with Nervi Molles.
 45. Pneumogastric Nerve, Ganglioniform Enlargement.
 46. Superior Cervical Ganglion.
 47. Nervi Molles from 46 to Superior Intercostal Nerve.
 48. Carotid Branches of 46.
 49. Nervi Molles from Superior Cervical Ganglion to 44.
 50. External Laryngeal Nerve.
 51, 52. Branches of 50 to Middle and Inferior Constrictors.
 53. Branch of 50 to the Interior of Larynx.
 54. Anastomosis of Internal and External Laryngeal Nerves.
 55. Branches of External Laryngeal to the Pharynx, Larynx and Thyroid Gland.
 56. Nervi Molles passing from the Inferior Portion of the Superior Cervical Ganglion.
 57. Anastomosis of Nervi Molles and External Laryngeal Nerve.
 58. Nervus Mollis from the Superficial Cardiac Nerve.
 59, 60. Nervi Mollesto Thyroid Gland.</p> | <p>61. Ninth Cerebral Nerve.
 62. Anastomosis Between the First and Second Cervical Spinal Nerves.
 63. Anastomosis of 61 with First Cervical.
 64. Two Filaments which pass from the First Cervical Spinal to the Superior Cervical Ganglion.
 65. Branches of Second Cervical Nerve to the Superior Cervical Ganglion.
 66. Branch to Superior Cervical Ganglion from Anastomosis of Second and Third Cervical Nerves.
 67. Anastomosis of Second and Third Cervical Spinal Nerves.
 68. Branch of Second Cervical Nerve to the Descendens Noni.
 69. Third Cervical Spinal Nerve.
 70. Branch of 69 to Descendens Noni.
 71. Fourth Cervical Spinal Nerve.
 72. Fifth Cervical Spinal Nerve.
 73. Phrenic Nerve.
 74. Portio Dura.
 75. Digastric Branch of 74.
 76. Stylo-hyoid Branch of 74.
 77. Filaments of 76 which join Temporal Sympathetic Branches.
 78. Auricular Branch of Inferior Maxillary Division of Fifth Nerve Anastomosing with 74.
 79. Temporal Branch of 74.
 80. Superior Facial Branch.
 81. Middle Facial Branch.
 82. Inferior Facial Branch.</p> |
|---|---|

PLATES XV AND XVI.

DISTRIBUTION OF THE PNEUMOGASTRIC NERVE IN THE NECK AND THORAX.

- | | |
|---|---|
| <p>a. Temporal Bone.
 b. Inferior Maxillary Bone.</p> | <p>c. Os Hyoides.
 d. Cervical Vertebrae.</p> |
|---|---|

- e.* First Dorsal Vertebra.
f. Clavicle.
g. Ribs.
h. Coracoid Process.
i. Masseter
k. Internal Pterygoid
l. Digastric
m. Stylo-Glossus
n. Stylo-hyoid
o. Stylo-pharyngeus
p. Genio-glossus
q. Genio-hyoid
r. Mylo-hyoid
s. Rectus Capitis Major
t. Trapezius
u. Splenius Capitis
v. Levator Anguli Scapulæ
w. Coraco-brachialis
x. Biceps
y. Teres
z. Subscapularis
a. Scalenus Anticus
β. Scalenus Medius
γ. Scalenus Posticus
δ. Longus Colli
ε. Intercostal
ζ. Submaxillary Gland.
η. Sublingual Gland.
θ. Thyroid Gland.
i. Epiglottis.
x. Thyroid Cartilage.
λ. Cricoid Cartilage.
μ. Arytænoid Cartilages.
ν. Arytænoides Muscle.
ξ. Posterior Crico-arytænoid Muscle.
ο. Lateral Crico-arytænoid Muscle.
π. Thyro-arytænoid Muscle.
ρ. Pharynx.
ς. Trachea.
ζ. Bronchi.
υ. Lungs.
φ. Heart.
τ. Right Auricle.
ψ. Trunk of Pulmonary Artery.
ω. Right Pulmonary Artery.
α. Aorta.

Muscles.

- b.* Innominate
c. Right Subclavian
d. Inferior Thyroid
e. Vertebral
f. Internal Mammary
g. Axillary
h. External Mammary
i. Subscapular
f. Common Carotid
l. Internal Carotid
m. External Carotid.
n. Superior Thyroid
o. Occipital
p. Posterior Auricular
q. Transverse Facial
r. Internal Maxillary
f. Superficial Temporal
t. Facial
u. Lingual
v. Transversalis Colli
w. Vena Cava Superior.
x. Vena Cava Inferior.
y. Pulmonary Vein.

Arteries.

1. Pneumogastric Nerve, drawn to the Right of its Normal Position to show the Superior Intercostal Nerve.
2. Cervical Cardiac Branches of 1.
3. Superior Cardiac Nerve.
4. Recurrent Laryngeus.
5. Communicating Branch to Inferior Cervical Ganglion.
6. Branch to Middle Cervical Ganglion.
7. Ascending Branches. [lion.]
8. Descending Branches.
9. Tracheal Branches.
10. Pharyngeal Branches to Constrictors.
11. Branches to Thyroid Gland and Larynx.
12. Branch to Internal Laryngeal.
- 13, 14. Muscular Branches.
15. Deep Inferior Cardiac Branches.
16. Inferior Cardiac Branches.
17. Superior Cardiac Plexus.
18. Anterior Pulmonary Plexus.

These organs have been moved from their natural positions to show the deep plexuses of the Pneumogastric.

- 19, 20. Branches Investing the Pulmonary Artery, and entering the Lungs.
21. Anastomosis with left Pneumogastric Nerve.
22. Sympathetic Nerve at its place of Exit from the Carotid Canal.
23. Superior Cervical Ganglion.
24. Branches of 23. [rotid.
25. Branches to the Internal Ca-
26. Plexiform Ramifications Investing the External Carotid.
27. Branches to the External Carotid.
28. Ganglionic Enlargement.
29. Branch to Facial Nerve.
30. Branches to Temporal and Internal Maxillary Arteries.
31. Branches to Facial Artery.
32. Branches to Lingual Artery.
33. Branches to Superior Thyroid Artery.
34. External Branches of Superior Laryngeal Nerve.
35. Communicating Branches with the Superior Cardiac Plexus.
36. Superior Branch of the Cervical Cardiac.
37. Its Plexiform Origin at the Superior Cervical Ganglion.
38. Branches Passing with the Inferior Thyroid Artery, supplying the Thyroid Gland.
39. Branch to the Cardiac Plexus.
40. Superficial Cervical Nerve (Sympathetic) from the Superior to Middle Cervical Ganglion.
41. Middle Cervical Ganglion.
42. Internal Branches of the Middle Cervical Ganglion.
43. Inferior Cervical Ganglion.
44. Branches investing the Subclavian Artery.
45. Middle Cardiac Nerve
46. Communicating Branch to Recurrent Laryngeal.
47. Superior Cardiac Nerve lying on the Aorta.
- 47.¹ Superficial Cardiac Plexus.
48. Branch passing to the Posterior Aspect of the Heart, and communicating with the Anterior Pulmonary Plexus.
49. Branch communicating with the Anterior Pulmonary Plexus.
50. Branch to the Left Coronary Artery. [Artery.
51. Branch to the Right Coronary
52. Inferior Cardiac Nerve.
53. Anterior Coronary Plexus.
54. Posterior Coronary Plexus (Sympathetic.)
55. Pharyngeal Branch of Pneumogastric.
56. Glosso-pharyngeus Nerve.
57. Branches to Internal Carotid Artery.
58. Communicating Branch of the Glosso-pharyngeus with the Pharyngeal Branch of the Pneumogastric.
59. Ramifications of the Glosso-pharyngeus at the Tonsil (Root of the Tongue).
60. Internal Laryngeal Branch of the Pneumogastric.
61. Communicating Branches with the External Laryngeus (Vago-sympathetic).
62. Muscular Branches distributed to the Constrictors.
63. Branches to the Inferior Constrictor and Thyroid Gland.
64. Communicating Branches with Recurrent Laryngeus.
65. Branches supplying the Muscles and Mucous Membrane of the Larynx.
66. Hypoglossal Nerve.
67. Its Anastomosis with the First and Second Cervical Nerves.
68. Facial Nerve.

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|--|--|--------------------|
| 69. Communicating Branch of the Facial with the Auricular Filaments of the Inferior Maxillary division of the Trigemini. | 78. Sixth | } Cervical nerves. |
| 70. Temporal Branch of Facial. | 79. Seventh | |
| 71. Branch to Digastricus (Facial). | 80. Eighth | |
| 72. Branch to Stylo-hyoid. | 81. First Dorsal Nerve (Dorsalis Primus.) | |
| 73. Accessory Portion of the Spinal Accessory Nerve. | 82. Phrenic Nerve. | |
| 74. Occipital Branch of the Second Cervical. | 83. Its Superior Roots. | |
| 75. Third | 84. Its Inferior Roots. | |
| 76. Fourth | 85. Unusual Branches of the Third Cervical. | |
| 77. Fifth | 86. Supraspinatus Nerve. | |
| | 87. Branches supplying Pectoralis Major and Serratus Magnus. | |
| | 88. Median and Radial Nerves. | |

PLATES XVII AND XVIII.

- | | |
|--|--|
| A. Heart. The Apex turned to the right exposing the Nerves on the Left Side. | d. Posterior Coronary Artery. |
| B. Inferior Surface of the Heart. | e. Branch passing to Under Surface of Heart. |
| C. Left Auricle. | f, g, h, i.. Branches of a, b, c, d. |
| D. Pulmonary Vein. | k. Left Pulmonary Vein. |
| E. Trunk of Pulmonary Artery. | l. Deep Pulmonary Vein. |
| F. Right Pulmonary Artery. | m. Superficial Pulmonary Vein. |
| G. Left Pulmonary Artery. | n. Thyroid Gland. |
| H. Ligamentum Arteriosum. | o. Trachea. |
| I. Arch of the Aorta. | p. Pharynx. |
| K. Innominate Artery. | q. Sterno-thyroid Muscle. |
| L. Left Common Carotid Artery. | r. Sterno-hyoid Muscle. |
| M. Left Subclavian Artery. | s. Omo-hyoid Muscle. |
| N. Thoracic Aorta. | t. Rectus Capitis Anticus Major Muscle. |
| O. Inferior Thyroid Artery. | u. Scalenus Anticus Muscle. |
| P. Superior Thyroid Artery. | v. Scalenus Posticus Muscle. |
| Q. Vertebral Artery. | w. Left Clavicle. |
| R. Superficial Cervical Branch. | x. Cervical Vertebrae. |
| S. Transversalis Colli. | y. Longus Colli Muscle. |
| T. Internal Mammary. | z. Bronchi. |
| U. Right Brachial Artery. | 1. Left Intercostal Nerve. |
| V. Subscapular Artery. | 2, 3. Branches of the Third Cervical Nerve. |
| X. Oesophagus. | 4. Trunk of Intercostal Nerve. |
| Y. Right Lung. | 5. Thyroid Ganglion. |
| Z. Left Lung. | 6. Fourth Cervical Nerve. |
| a. b. Posterior Coronary Artery. | 7. Branch of 6 to Middle Cervical Ganglion. |
| c. Branches to Posterior Surface of Heart. | |

8. Branch of the Fourth and Fifth Cervical Nerves joining 5.
9. 10. Two Branches from the Inferior Cervical Ganglion to 5.
11. Inferior Cervical Ganglion.
12. External Branch of 11 to Cervical Nerves.
13. Branch from the Last Cervical and First Dorsal Nerves to 11.
14. Branches of the Superior Cervical Ganglion, which form the Superior Cardiac Nerve.
- 15, 16, 17, 18. Superior Cardiac Nerve.
19. Anastomosis of 18 with Superior Cervical Ganglion.
20. Branch of 18 to Hypoglossal Nerve.
- 21, 22. Branches of 18, which pass over the Arch of the Aorta.
23. Thyroid Branches of 5.
24. Branches of 5 to 11.
25. Branch from 11 to 26.
26. Middle Cardiac Nerve.
27. Branch from 5 accompanying 26.
28. Ganglioniform Enlargement of 26.
29. Branches of 26 joining the great Cardiac Plexus.
30. Branch from the Middle Cervical Ganglion to the Arch of the Aorta.
31. Deep Cardiac Plexus.
32. Cardiac Ganglion of Wrisberg.
33. Branches from 31 and 32 to Anterior Coronary Plexus.
34. Right Lesser Cardiac Nerve.
- 35, 36. Branches to Anterior Cardiac Plexus.
37. Origin of Nerves to the Anterior Coronary Plexus.
38. Nerves to Left Anterior Pulmonary Plexus.
39. Branch of 38 to Anterior Coronary Plexus.
40. Branch from 31 to Middle Cardiac. [diac Nerve.
41. Branch from 31 to Inferior Car-
42. Plexiform arrangement of 40 and 41.
43. Trunk of Branches which form the Posterior Coronary Plexus.
44. Branches from 38 to 43.
- 45, 46, 47, 48. Branches supplying the Pulmonary Artery and Left Side of the Heart.
- 49, 50. Branches passing to Anterior Coronary Plexus. [Artery.
- 51, 52. Branches to Left Pulmonary
53. Branches passing to *k*.
54. Posterior Coronary Plexus.
55. Branches which accompany the Posterior Coronary Artery.
- 56, 57. Branches supplying the Posterior Surface of the Heart.
- 58, 59. Nervous Filaments from 54.
- 60, 61, 62, 63. Branches accompanying the Left Branch of the Posterior Coronary Artery.
- 64, 65. Communicating Branches with Posterior Coronary Ar-
66. Branch of 65. [tery.
67. Branches from the Anterior Surface of the Heart to the Posterior Coronary Artery.
68. Branch to the Auricles.
- 69, 70. Branches from 31 to join with Branches of 54, passing along the Arch of the Aorta.
71. Left Pneumogastric Nerve.
72. Superficial Cardiac Branch of 71.
73. Communication of 72 with 18.
74. Branch of 71 going to 31.
75. Branch of 74 to Pulmonary Plexus.
76. Recurrent Nerve of left side.
77. 76 passing beneath 31.
- 78, 79. Branches of 76 distributed to the Trachea and Thyroid Gland.
80. Branches to Bronchi.
81. Branch to Pulmonary Vessels.
- 82, 83. Branches to left Pulmonary Artery and Left Lung.

- | | |
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| 84, 85. Branches to Anterior Surface
of the Left Lung.
86. Branch to Left Bronchus and
Œsophagus.
87, 88. Brachial Plexus. | 89. Left Phrenic Nerve.
90. Right Phrenic Nerve.
91, 92. Branches accompanying the
Transversalis Colli and In-
ternal Mammary Arteries. |
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PLATES XIX AND XX.

ANTERIOR SURFACE OF THE HEART OF A HORSE.

- | | |
|--|--|
| A. Right Ventricle.
B. Left Ventricle.
C. Right Auricle.
D. Left Auricle.
E. Pulmonary Artery.
F. Vena Cava Superior.
G. Aorta.
H. Right Coronary Artery.
I. Branches to the right Ventricle.
K. Branches to the right Auricle.
L. Left Coronary Artery.
M. }
N. } Larger Branches of Same.
O. }
P. }
Q. } Lesser Branches of L.
R. Branch to Left Auricle.
1. Trunk of Right Cardiac Nerve.
2. Its Bifurcation.
3. Right Cardiac Branch.
4, 5, 6. Branches to the Right Heart.
7. Ganglioniform Enlargement.
8 to 20. Branches passing with the
Anterior Coronary Artery and
its Branches.
21 to 24. Branches to Right Auricle.
25. Left Cardiac Nerve. | 26, 27. Branches joining the Major
Branches of the Left Coro-
nary Artery.
28. Anastomoses with those of the
Right Cardiac Nerve.
29. Trunk of Left Cardiac Nerve di-
viding into numerous branches.
30. Left Cardiac Ganglion.
31, 32. Branches of Left Cardiac
Nerve which do not enter
the Left Cardiac Ganglion.
33. Continuation of the Branches of
the Left Cardiac Nerve pass-
ing through the Left Car-
diac Ganglion.
34 to 46. Branches of the Left Card-
iac Nerve passing with the
Left Coronary Artery and its
Branches.
47. Branch of Left C. Nerves to the
Lesser Branches of the Left
Coronary Artery, and passing
with it.
48. Auricular Nerves.
49, 50, 51, 52. Branches of the same
Nerve supplying the Left
Ventricle. |
|--|--|

FIG. II. ANTERIOR SURFACE OF THE HUMAN HEART.

- | | |
|---|---|
| A. Right Ventricle.
B. Left Ventricle.
C. Right Auricle.
D. Left Auricle.
E. Vena Cava Superior.
F. Aorta. | G. Pulmonary Artery.
H. Ductus Arteriosus.
I. Right Coronary Artery.
K. Major Branch of Left Coronary
Artery.
L. Minor Branch of same. |
|---|---|

N. B. The Nerves in this figure are those passing with the coronary arteries on the left side of the heart, supplying the substance of the left Ventricle. The Superficial Nerves and the rest are the same in the human heart as in that of the horse.

PLATES XXI AND XXII.

FIG. I. POSTERIOR SURFACE OF THE HEART OF A HORSE.

- | | |
|--|---|
| <p><i>A.</i> Left Ventricle.
 <i>B.</i> Right Ventricle.
 <i>C.</i> Left Auricle.
 <i>D.</i> Right Auricle.
 <i>E.</i> Vena Cava Inferior.
 <i>F.</i> Coronary Sinus.
 <i>G.</i> Middle Cardiac Vein.
 <i>H.</i> Right Coronary Artery.
 <i>I.</i> Branches to the Right Ventricle.
 <i>K.</i> Branches to the Left Ventricle.
 <i>L.</i> Branch to Right Auricle.
 <i>M.</i> Branch of the Right Coronary Artery dividing into <i>N</i> and <i>O</i> Branches.
 <i>N.</i> To the base of the Left Ventricle.
 <i>O.</i> Branch to Left Auricle.
 <i>P.</i> Branch of Left Coronary Artery.
 1, 2, 3, 4, 5. Trunk and Branches of the Posterior Cardiac Nerve.
 6, 7. Nervous Plexus around the Orifice of the Inferior Vena Cava.</p> | <p>8. 9. Branch of Posterior Cardiac Nerve to the Left Auricle and Ventricle.
 10, 11, 12, 13, 14, 15, 16. Branches of the same to the Left Ventricle.
 17 to 24. Branches of same, accompanying those of the Right Coronary Artery to the Left Ventricle.
 25 to 35. Branches of the above Nerve passing with the Branches of the Right Coronary Artery to the Right Ventricle.
 36, 37, 38. Branches from the convex surface of the Right Ventricle.
 39 40, 41. Branches of the same Nerve distributed to the right Auricle.</p> |
|--|---|

FIG. II. POSTERIOR SURFACE OF THE HUMAN HEART.

- | | |
|--|---|
| <p><i>A.</i> Left Ventricle.
 <i>B.</i> Right Ventricle.
 <i>C.</i> Vena Cava Superior.
 <i>D.</i> Vena Cava Inferior.</p> | <p><i>E.</i> Middle Cardiac Vein.
 <i>F.</i> Vena Azygos Sinister.
 <i>G. H.</i> Pulmonary Veins.</p> |
|--|---|

PLATES XXIII AND XXIV.

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|--|--|
| <p><i>A.</i> Vena Cava Superior.
 <i>B. B.</i> Internal Jugular Vein.
 <i>C.</i> Inferior Thyroid Vein.
 <i>D.</i> External Jugular Vein. [ular.
 <i>E.</i> Superficial part of Anterior Jug-
 <i>F.</i> Superior Thyroid Vein.
 <i>G.</i> Temporal Vein.
 <i>H.</i> Transverse Facial Vein.
 <i>I.</i> External Pharyngeal Vein.
 <i>K.</i> Deep Lingual Vein.
 <i>L.</i> Anastomosis of <i>K</i> with <i>D</i>.
 <i>M. M.</i> Internal Jugular Vein.</p> | <p><i>N.</i> Innominate Artery.
 <i>O.</i> Right Subclavian Artery.
 <i>P. P.</i> Right Common Carotid Artery.
 <i>Q.</i> Transversalis Colli Artery.
 <i>R. R.</i> Superior Thyroid Artery.
 <i>S.</i> Lingual Artery.
 <i>T. T.</i> Facial Artery.
 <i>V. V.</i> Temporal Artery.
 <i>U.</i> Internal Maxillary Artery.
 <i>W.</i> Posterior Auricular Artery.
 <i>X. X.</i> Occipital Artery. [Bone.
 <i>Y.</i> Styloid Process of Temporal</p> |
|--|--|

- Z. Manubrium.
- a. Masseter Muscle.
- b. Internal Pterygoid Muscle.
- c. Stylo-glossus Muscle.
- d. Stylo-hyoid Muscle.
- e. Digastric Muscle. Posterior belly.
- f, f. Hyo-glossus.
- g. Genio-glossus Muscle.
- h. Genio-hyoid Muscle.
- i. Mylo-hyoid Muscle.
- k. Thyro-hyoid Muscle.
- l, l. Sterno-thyroid Muscle.
- m, m. Costal Origin of Sterno-thyroid Muscle.
- n, n. Sterno-hyoid Muscle.
- o. Left Sterno-hyoid Muscle.
- p. Sterno-mastoid Muscle of left side.
- q. Pharynx. [cle.
- r. Obliquus Capitis Superior Mus.
- s. Levator Anguli Scapulæ Muscle.
- t. Scalenus Anticus Muscle.
- u. Trapezius Muscle.
- v. Scalenus Posticus Muscle.
- w. Right Sterno-mastoid Muscle.
- x. Sublingual Gland.
- y. Right Clavicle.
- z. Stylo-maxillary Ligament.
- 1. Ninth Cranial Nerve. Hypoglossal.
- 2. Descendens Noni Nerve.
- 3. Branch of 2 to Carotid Vessels.
- 4, 5. Two branches piercing the Sterno-hyoid.
- 6. Branch to head of Sterno-hyoid.
- 7. Its division into minor branches.
- 8-11. Distribution to Sterno-hyoid.
- 12, 14. Branches to Costo-hyoid.
- 15. Branch of Second Cervical Spinal Nerve which joins with 2.
- 16. Branch from Third Cervical to 2.
- 17. Plexus formed by 15, 16 and 2.
- 18-21. Branches of 17 to the Sterno-thyroid.
- 22. Prolongation of same to Sterno-hyoid.
- 23, 24. Branch passing to Sternum.
- 25-27. Branches passing with the Phrenic Nerve.
- 28, 29. Costo-hyoid Branch.
- 30, 31. Branches from the Fourth and Fifth Cervical.
- 32. Trunk of Ninth Cranial Nerve.
- 33. 34. Descending branch to Thyro-hyoid.
- 35. Branch to Lingual Muscles.
- 36. 38. Filaments of Superior branch to Lingual Muscles.
- 39. Double Anastomosis with Gustatory division of Trigemini.
- 40. Branch of 32 to Sublingual Gland and Tongue.
- 41. Division of 32 into branches to Muscles of the Tongue.
- 42. Branch to Genio-hyoid.
- 43. Lingual Branch of Fifth Cranial.
- 44, 45. Lingual Branch of Fifth Nerve supplying the Submaxillary and Sublingual Glands.
- 46. Branches to Glossal Muscles.
- 47. External Branch of Spinal Accessory.
- 48. Spinal Accessory passing to Sterno-mastoid Muscle.
- 48. Spinal Accessory passing to Scapula.
- 50. Second Cervical Spinal Nerve.
- 51. Anastomosis between branches of 47 and 50.
- 52. Third Spinal Cervical Nerve.
- 53. Anastomosis of 52 with 57.
- 54. Fourth Cervical Spinal Nerve.
- 55. Fifth Cervical Spinal Nerve.
- 56. Phrenic Nerve.
- 57. Third Root of Phrenic Nerve, which in this subject comes from 55.

PLATES XXV AND XXVI.

FIRST AND SECOND CERVICAL NERVES.

FIG. I.

- | | |
|---------------------------------------|--|
| <i>a.</i> Lower Jaw. | <i>o.</i> Obliquus Inferior. |
| <i>b.</i> Mastoid Process. | <i>p.</i> Rectus Capitis Posticus Major. |
| <i>c.</i> Transverse Process of Axis. | <i>q.</i> Rectus Capitis Posticus Minor. |
| <i>d.</i> Third Cervical Vertebra. | <i>r.</i> Rectus Lateralis. |
| <i>e.</i> Fourth Cervical Vertebra. | <i>s.</i> Splenius Capitis. |
| <i>f.</i> Temporal Artery. | <i>t.</i> Levator Anguli Scapulæ. |
| <i>g.</i> Posterior Auricular Artery. | <i>u.</i> Sacro-lumbalis. |
| <i>h.</i> Superior Auricular Artery. | <i>v.</i> Transversalis Cervicis. |
| <i>i.</i> Occipital Artery. | 1. Suboccipital Nerve. |
| <i>k.</i> Vertebral Artery. | 2. Anterior Branch. |
| <i>l.</i> Occipital Muscle. | 3. Posterior Branch. |
| <i>m.</i> Complexus. | 4. Branch to <i>n</i> and <i>p.</i> [Cervical. |
| <i>n.</i> Obliquus Superior. | 5. Descending Branch to second |

PLATES XXVII AND XXVIII.

THIRD AND FOURTH CERVICAL NERVES.

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|---|---|
| <i>a.</i> Lower Jaw. | <i>y.</i> Subclavian Vein. |
| <i>b.</i> Mastoid Process. | <i>z.</i> External Jugular Vein. |
| <i>c.</i> Superior curved line of Occipital Bone. | <i>a.</i> Inferior Thyroid Vein. |
| <i>d.</i> Clavicle. | 1. Third Cervical Nerve. |
| <i>e.</i> Sterno-mastoid | 2. Fourth Cervical Nerve. |
| <i>f.</i> Platysma | 3. Fifth Cervical Nerve. |
| <i>g.</i> Risorius | 4. Phrenic Nerve. |
| <i>h.</i> Masseter | 5. Spinal Accessory. |
| <i>i.</i> Occipitalis | 6. Facial. |
| <i>k.</i> Retrahens Aurem | 7. Hypoglossal. |
| <i>l.</i> Attolens Aurem | 8. Occipitalis Major. |
| <i>m.</i> Digastric, posterior belly | 9. Communicating Branch to 7. |
| <i>n.</i> Stylo-hyoid | 10, 11. Muscular Branches. |
| <i>o.</i> Levator Anguli Scapulæ | 12. Auricularis Magnus. |
| <i>p.</i> Scalenus Anticus | 13. Occipital Branch. |
| <i>q.</i> Omo-hyoid | 14. Occipital Nerve. |
| <i>r.</i> Trapezius | 15. Branch to 8. |
| <i>s.</i> Splenius Capitis | 16. Cutaneous Branch. |
| <i>t.</i> Ear. | 17. Superior Auricular Branch. |
| <i>u.</i> External Meatus Auditorius. | 18. Cutaneous Branch to the Ear. |
| <i>v.</i> Parotid Gland. | 19. Anastomosis with 6. |
| <i>w.</i> Vena Cava Superior. | 20. Anastomosis of 1 with 5. |
| <i>z.</i> Internal Jugular Vein. | 21. Middle cutaneous Nerve of the Neck. |

- | | |
|---|---|
| 22. Its Superior Branch. | 38. Malar Branch. |
| 23. Anastomosis with 2. | 39. Auricular Branch. |
| 24. Cutaneous Maxillary Branch. | 40. Facial Cutaneous Branch. |
| 25. Inferior Cervical Cutaneous Branch. | 41. Communicating Branch from 30 to 6. |
| 26. Branch to Skin over the Trapezius | 42. Mental Branch. |
| 27. Anastomosis with Second Cervical Nerve. | 43. Anastomosis with 6. |
| 28. Muscular Branches of 2. | 44. Muscular Branch. |
| 29. Anastomosis with 1. | 45. Anterior Branch of 2. |
| 30. Middle Cervical cutaneous Nerve | 46. Inferior Cervical Cutaneous Branch. |
| 31. Acromial and Clavicular Branch. | 47. Deep Muscular Branch. |
| 32. Sternal Branch. | 48. Supra-clavicular Branches. |
| 33. Branch to the Face. | 49. Muscular Branch of 3. |
| 34. Joining with 35. | 50. Muscular Branch of 5. |
| 35. Branch of 21. | 51. Occipital Branch of Facial. |
| 36. Anastomosis with 6. | 52, 53, 54, 55. Muscular Branches. |
| 37. Parotid Branch. | 56. Anastomoses with Cervical Nerves. |

PLATES XXIX AND XXX.

NERVES OF THE UPPER EXTREMITY.

FIG. I. NERVES OF THE AXILLA AND ARM.

- | | |
|--------------------------------|--|
| a. Cervical Vertebrae. | x. Flexor Sublimis Digitorum. |
| b. Clavicle. | y. Flexor Longus Pollicis. |
| c. First Rib. | z. Supinator Longus. |
| d. Humerus. | a. Axillary Artery. |
| e. Scalenus Anticus. | β. Brachial Artery. |
| f. Scalenus Medius. | γ. Bifurcation into Ulnar and Radial Artery. |
| g. Scalenus Posticus. | δ. Radial Artery. |
| h. Trapezius. | ε. Internal Jugular Vein. |
| i. Serratus Magnus. | ζ. Subclavian Vein. |
| k. Pectoralis Major. | η. External Jugular Vein. |
| l. Pectoralis Minor. | θ. Axillary Vein. |
| m. Subscapularis. | ι. Cephalic Vein. |
| n. Latissimus Dorsi. | κ. Median Vein. |
| o. Deltoid. | λ. Basilic Vein. |
| p. Coraco-brachialis. | μ. Venous Plexus of the Forearm. |
| q, r. Biceps. | 1. Anterior Branch of Fourth Cervical Nerve. |
| s. Brachialis Anticus. | 2. Cutaneous Branch. |
| t. Triceps. | 3. Supra-clavicular Branch. |
| u. Pronator Radii Teres. | 4. Cutaneous Branch. |
| v. Flexor Carpi Ulnaris. | |
| w. Flexor Profundus Digitorum. | |

- | | |
|---|---|
| <ul style="list-style-type: none"> 5. Internal Branch of *5. Middle Supraclavicular Nerve. 6. Posterior Supraclavicular Nerve. 7. Phrenic Nerve. 8. Anastomosis with 9. 9. Anterior Branch of Fifth Cervical Nerve. 10. Anterior Branch of Sixth Cervical Nerve. 11. Anastomosis with 9. 12. Suprascapular Nerve. 13. Muscular Branch. 14. Anterior Branch of Seventh Cervical Nerve. 15. Muscular Branch. 16. Anterior Branch of Eighth Cervical Nerve. 1, 9, 10, 14, 16. Brachial Plexus. 17. Muscular Branch. | <ul style="list-style-type: none"> 13, 15, 17. Anterior Thoracic Branches. 18. Brachial Plexus around the Axillary Artery. 19. Ulnar Nerve. 20. Subscapular Nerve. 21. Median Nerve. 22. Muscular Branch. 23. Deep Interosseous. 24. Muscular Branch. 25. Cutaneous Branch. 26. Radial Nerve. 27. External Cutaneous Nerve. 28. Muscular Branch. 29. Axillary Nerve. 30. Musculo-cutaneous Nerve. 31, 32. Muscular Branch. 33. Cutaneous Branch to Forearm. 34. Muscular Branch. 35. Branch joining 33. |
|---|---|

FIG. II. NERVES OF THE VOLAR SURFACE OF THE HAND.

- | | |
|--|---|
| <ul style="list-style-type: none"> a. Pronator Radii Teres. b. Radialis Indicis. c. Tendons of Flexor Sublimis Digitorum. d. Supinator Longus. e. Flexor Carpi Ulnaris. f. Flexor Profundus Digitorum. g. Pronator Quadratus. h. Pisiform Bone. 1. Median Nerve. 2. Muscular Branch. 3. Interosseous Branch. 4, 5. Muscular Branches. 6. Long Cutaneous Branch. 7. Division of the Median Nerve. 8. Ulnar Branch. 9. Branch to Third Lumbricales. 10. Anastomosis with 8. 11. Radial Palmar Branch to the Ring Finger. 12. Ulnar Palmar Branch to the Middle Finger. 13. Median Branch, Internal. 14. Radial Palmar Branch to the | <ul style="list-style-type: none"> Middle Finger. 15. Ulnar Palmar Branch to the Index Finger. 16. Median Branch, External. 17. Volar Branch of the Radial side of the Index Finger. 18. Volar Branch of the Ulnar side of the Thumb. 19. Volar Branch of the Radial side of the Thumb. 20. External Muscular Branch. 21. Ulnar Nerve. 22. Deep Branch. 23. Superficial Branch. 24. Ulnar Branch of the Ulnar side of the Little Finger. 25. Median Branch. 26. Volar Branch of the Radial side of the Little Finger. 27. Volar Branch of the Ulnar side of the Ring Finger. 28. Anastomosis with 8. 29. Loops between the Radial and Ulnar Branches. |
|--|---|

FIG. III. NERVES OF THE DORSUM OF THE HAND.

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|--|--|
| <ol style="list-style-type: none"> 1. Dorsal Branch of the Ulnar Nerve. 2. Digital Branch. 3. Digital Branch to Ring and Little Finger. 4. Dorsal Branch to Radial side of Little Finger. 5. Dorsal Branch to Ulnar side of Little Finger. 6. Digital Branch to Ring and Middle Fingers. 7. Dorsal Branch to Radial side of Ring Finger. 8. Dorsal Branch to Ulnar side of Middle Finger. 9. Dorsal Branch of Radial Nerve. 10. Dorsal Branch of Radial side of the Thumb. 11. External Branch. | <ol style="list-style-type: none"> 12. Dorsal Branch of Ulnar side of the Thumb. 13. Dorsal Branch of Radial side of the Index Finger. 14. Internal Branch. Radial. 15. Dorsal Branch of Ulnar side of Index Finger. 16. Dorsal Branch of Radial side of Middle Finger. 17. Anastomosis of 2 with 9. 18. Dorsal Branch of the Ulnar side of the Little Finger. 19. Communicating Branches between the Radial and Ulnar Digital branches. 20. Posterior cutaneous Branch of Musculo-cutaneous nerve. 21. Cutaneous Filaments. |
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PLATES XXXI AND XXXII.

NERVES OF THE INFERIOR EXTREMITY.

FIG. I. FRONT VIEW OF THE LEG.

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|---|---|
| <ol style="list-style-type: none"> a. Ilium. b. Pubis. c. Sacrum. d. Femur. e. Patella. f. Tibia. g. Quadratus Lumborum h. Psoas Magnus i. Psoas Parvus k. Iliacus l. Gluteus Medius m. Gluteus Minimus n. Pectineus o. Adductor Longus p. Adductor Magnus q. Gracilis r. Tendon of Rectus Femoris s. Crureus t. Vastus Internus | <ol style="list-style-type: none"> u. Vastus Externus v. Biceps Femoris w. Semitendinosus x. Peroneus Longus y. Peroneus Brevis z. Tibialis Posticus a. Soleus β. Femoral Artery. γ. Profunda Femoris: δ. Circumflex Iliac Artery. ε. External Circumflex Artery. ζ. Internal Circumflex Artery. η. Anterior Tibial Artery. 1. Branch of First Lumbar Nerve. 2. Ilio-inguinal Nerve. 3. External Cutaneous Nerve. 4. Roots of Crural from the Second and Third Lumbar Nerves. 5. Root from Fourth Lumbar Nerve. |
|---|---|
- Muscles.
- Muscles.

- | | |
|-----------------------------------|-----------------------------|
| 6. Anterior Crural. | 10. External Branch. |
| 7. Cutaneous Nerves of the Thigh. | 11. Anterior Branch of 10. |
| 8. Internal Saphenous Nerve. | 12. Posterior Branch of 10. |
| 9. Internal Branch. | 13. Superficial Peroneal. |

FIG. II. SCIATIC NERVE.

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|------------------------------------|-------------------------------------|
| <i>a.</i> Gluteus Maximus. | <i>l.</i> Tibialis Posticus. |
| <i>b.</i> Gluteus Medius. | <i>u.</i> Femoral Artery. |
| <i>c.</i> Tensor Vaginæ Femoris. | <i>v.</i> Popliteal Artery. |
| <i>d.</i> Vastus Externus. | <i>w.</i> Posterior Tibial Artery. |
| <i>e.</i> Obturator Internus. | <i>x.</i> Peroneal Artery. |
| <i>f, g.</i> Biceps Femoris. | 1. Great Sciatic Nerve. |
| <i>h.</i> Semitendinosus. | 2. Muscular Branch. |
| <i>i.</i> Semimembranosus. | 3. Superior Inner Cutaneous Branch. |
| <i>k.</i> Adductor Magnus. | 4. Inferior Inner Cutaneous Branch. |
| <i>l.</i> Gracilis. | 5. Muscular Branch. |
| <i>m.</i> Gastrocnemius. | 6. Peroneal Nerve. |
| <i>n.</i> Tendo Achillis. | 7. Tibial Nerve. |
| <i>o.</i> Plantaris. | 8. Long Cutaneous Nerve. |
| <i>p.</i> Flexor Longus Digitorum. | 9 to 12. Muscular Branches. |
| <i>q.</i> Peroneus Longus. | |
| <i>r.</i> Flexor Longus Hallucis. | |
| <i>s.</i> Peroneus Brevis. | |

PLATES XXXIII AND XXXIV.

SYMPATHETIC NERVE.

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| <i>a.</i> Cervical Vertebrae. | <i>u.</i> Vena Cava Superior. |
| <i>b.</i> Dorsal Vertebrae. | <i>v.</i> Pulmonary Veins. |
| <i>c.</i> Ribs. | <i>w.</i> Aorta. |
| <i>d.</i> Lumbar Vertebrae. | <i>x.</i> Anonymous Artery (Innominate). |
| <i>e.</i> Sacrum. | <i>y.</i> Right Common Carotid Artery. |
| <i>f.</i> Coccyx. | <i>z.</i> Right Subclavian Artery. |
| <i>g.</i> Ilium. | <i>a.</i> Vertebral Artery. |
| <i>h.</i> Pubes. | <i>β.</i> Thoracic Aorta. |
| <i>i.</i> Scaleni Muscles. | <i>γ.</i> Intercostals. |
| <i>k.</i> Intercostals. | <i>δ.</i> Abdominal Aorta. |
| <i>l.</i> Diaphragm. | <i>ε.</i> Celiac Axis. |
| <i>m.</i> Quadratus Lumborum. | <i>ζ.</i> Superior Mesenteric Artery. |
| <i>n.</i> Iliacus. | <i>η.</i> Renal Artery. |
| <i>o.</i> Oesophagus. | <i>θ.</i> Spermatic Artery. |
| <i>p.</i> Kidney. | <i>i.</i> Inferior Mesenteric Artery. |
| <i>q.</i> Ureter. | <i>x.</i> Common Iliac Artery. |
| <i>r.</i> Trachea. | 1. Phrenic Nerve. |
| <i>s.</i> Heart. | 2. Diaphragmatic Branches. |
| <i>t.</i> Pulmonary Artery. | 3. Its Roots. |

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|--|---|
| <p>4. Superficial Scapular Nerve.
 5. Fifth Cervical Nerve.
 6. Branch to Middle Cervical Ganglion.
 7. Sixth
 8. Seventh } Cervical Nerves.
 9. Eighth }
 10. Sympathetic Nerve.
 11. Middle Cardiac Nerve.
 12. Middle Cervical Ganglion—Sympathetic.
 13. Branches to Subclavian Artery.
 14. Inferior Cervical Ganglion.
 15. Anastomosis with 12.
 16. Thoracic Portion of Sympathetic.
 17 to 28. From the First to the Twelfth Dorsal Ganglion. Sympathetic.
 29. Intercostal Branches from Dorsal Nerves.
 30. Communicating Branches from 17 to 28.
 31. Branch to the Aorta.
 32. Roots of the Great Splanchnic Nerve.
 33. Splanchnic Ganglia.
 34. Phrenic Branch.
 35. Branch to Semilunar Ganglion.
 36. Lesser Splanchnic Nerve.
 37 to 41. Five Lumbar Nerves.
 42. Branches to the Sympathetic.
 43. Lumbar Portion of the Sympathetic.
 44 to 48. Lumbar Ganglia of Sympathetic.</p> | <p>49. Branch from 44 to Inferior Mesenteric Plexus.
 50 to 53. Sacral Nerve.
 54. Sacral Portion of Sympathetic.
 55. Branches of the Sacral Ganglia.
 56. Lower Nervous Circle of the Sacrum.
 57. Ganglion Impar.
 58. Vagus.
 59. Recurrent Branch.
 60. Pharyngeal Branch.
 61. Branches to Subclavian Artery.
 62. Branches from 61 to Innominate Artery.
 63. Cardiac Plexus.
 64. Branch of 59 to 11.
 65. Branches of Vagus to Anterior Pulmonary Plexus.
 66. Œsophageal Plexus.
 67. Anastomosis of 66 with Cœliac.
 68. Branch of 67 to Œsophagus.
 69 to 71. Solar Plexus.
 72. Renal Plexus.
 73. Branches of Sympathetic to Aortic Plexus.
 74. Hypogastric Plexus.
 75. Muscular Branch of Lumbar Plexus.
 76. Ileo-hypogastric Nerve.
 77. Ileo-inguinal Nerve.
 78. External Cutaneous Nerve.
 79. Lumbo-inguinal Nerve.
 80. External Spermatic Nerve.
 81. Anterior Crural Nerve.
 82. Obturator Nerve.
 83. Sciatic Nerve.</p> |
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PLATES XXXV AND XXXVI.

NERVES OF THE LIVER AND STOMACH.

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| <p>a. Right
 b. Quadrate } Lobes of the Liver.
 c. Left }
 d. Lobus Spigelii.
 e. Round Ligament of the Liver.
 f. Broad Ligament of the Liver.</p> | <p>g. Gall Bladder.
 h. Ductus Hepaticus.
 i. Ductus Communis Choledochus.
 k. Diaphragm.
 l. Œsophagus.
 m. Cardiac Portion of the Stomach.</p> |
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|--|---|
| <ul style="list-style-type: none"> <i>n.</i> Ventricle. <i>o.</i> Pylorus. <i>p.</i> Duodenum. <i>q.</i> Pancreas. <i>r.</i> Lesser Omentum. <i>s.</i> Greater Omentum. <i>t.</i> Left Coronary Artery of Stomach. <i>u.</i> Right Coronary Artery of the Stomach. <i>v.</i> Pancreatic Arteries. <i>w.</i> Cystic Artery. | <ul style="list-style-type: none"> <i>x.</i> Left Hepatic Artery. <i>y.</i> Splenic Artery. <i>z.</i> Vena Portæ. <i>a.</i> Vena Cava Ascendens. 1. Solar Plexus. 2. Anterior Gastric Plexus. 3. Great Gastric Plexus. 4. Hepatic Plexus. 5. Branches to Duodenum. 6. Inferior Gastric Plexus. 7. Branches of 1 to the Pancreas. |
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PLATES XXXVII AND XXXVIII.

NERVES OF THE UTERUS.

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|---|--|
| <ul style="list-style-type: none"> <i>a.</i> Lumbar Vertebrae. <i>b.</i> Sacrum. <i>c.</i> Ilium. <i>d.</i> Iliacus Muscle. <i>e.</i> Quadratus Lumborum Muscle. <i>f.</i> Psoas Magnus Muscle. <i>g.</i> Psoas Parvus Muscle. <i>h.</i> Diaphragm. <i>i.</i> Kidney. <i>k.</i> Ureter. <i>l.</i> Rectum. <i>m.</i> Vagina. <i>n.</i> Uterus. <i>o.</i> Fallopian Tube. <i>p.</i> Fimbriated Extremity. <i>q.</i> Ovary. <i>r.</i> Broad Ligament of the Uterus. <i>s.</i> Abdominal Aorta. <i>t.</i> Superior Mesenteric Artery <i>u.</i> Renal Artery. <i>v.</i> Spermatic Artery. <i>w.</i> Inferior Mesenteric Artery. <i>x.</i> Lumbar Arteries. <i>y.</i> Common Iliac Artery. <i>z.</i> Middle Sacral Artery. | <ul style="list-style-type: none"> <i>a.</i> Femoral Artery. <i>β.</i> Internal Iliac Artery. <i>γ.</i> Lateral Sacral Arteries. <i>δ.</i> Gluteal Artery. <i>ε.</i> Umbilical Artery. <i>ζ.</i> Obturator Artery. <i>η.</i> Uterine Artery. 1. Sympathetic Nerve. 2. First 3. Second 4. Third 5. Fourth 6. Fifth 7. Anterior Renal Ganglion. 8. Renal Plexus. 9. Spermatic Plexus. 10. Inferior Mesenteric Plexus. 11. Posterior Uterine Plexus. 12. Lateral Uterine Plexus. 13. Cutaneous Branch from the First Lumbar Nerve. 14-16. Cutaneous Branches of the Second, Third, and Fourth Lumbar Nerves. |
|---|--|

PLATES XXXIX AND XL.

NERVES OF THE MALE GENITALIA.

FIG. I.

- | | |
|--|---|
| <ul style="list-style-type: none"> <i>a.</i> Lumbar Vertebrae. <i>b.</i> Sacrum. | <ul style="list-style-type: none"> <i>c.</i> Auricular Surface. <i>d.</i> Coccyx. |
|--|---|

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|--|-------------------|--|
| <p><i>e.</i> Pubes.</p> <p><i>f.</i> Quadratus Lumborum</p> <p><i>g.</i> Intertransversarii Lumbales</p> <p><i>h.</i> Sacro-lumbalis</p> <p><i>i.</i> Coccygeus</p> <p><i>k.</i> Sphincter Ani Externum</p> <p><i>l.</i> Levator Ani</p> <p><i>m.</i> Crus Penis</p> <p><i>n.</i> Abdominal Aorta.</p> <p><i>o.</i> Common Iliac Artery.</p> <p><i>p.</i> Rectum.</p> <p><i>q.</i> Bladder.</p> <p><i>r.</i> Ureter.</p> <p><i>s.</i> Urachus.</p> <p><i>t.</i> Prostate Gland.</p> <p><i>u.</i> Vesicula Seminales.</p> <p><i>v.</i> Vas Deferens.</p> <p><i>w.</i> Spermatic Artery.</p> <p><i>x.</i> Spermatic Vein.</p> <p><i>y.</i> Spermatic Cord.</p> <p><i>z.</i> Scrotum.</p> <p><i>a.</i> Septum Scroti.</p> <p><i>β.</i> Corpus Cavernosum Penis.</p> <p><i>γ.</i> Urethra.</p> <p><i>δ.</i> Isthmus of Urethra.</p> <p><i>ε.</i> Glans Penis.</p> <p>1. Sympathetic Nerve.</p> <p>2. Third</p> <p>3. Fourth } Lumbar Ganglia.</p> <p>4. Fifth }</p> <p>5. Aortic Branches of 4. [to 7,</p> <p>6. Branches from the Solar Plexus</p> <p>7. Inferior Aortic Plexus.</p> <p>8. Communicating Branches from
2 to Third and Fourth Lum-
bar Nerves.</p> <p>9. First</p> <p>10. Second } Sacral Ganglia.</p> <p>11. Third }</p> <p>12. Branch from 9 to last Lumbar
Nerve.</p> | <p>} Muscles.</p> | <p>13. Branch from 10 to First Sacral
Nerve.</p> <p>14. Branch from the Third to the
Second Sacral Nerve.</p> <p>15. Ileo-hypogastric Plexus.</p> <p>16. Hypogastric Plexus.</p> <p>17. Branch to Spermatic Cord.</p> <p>18. Anterior Branch of Second Lum-
bar Nerve.</p> <p>19. Genito-crural Nerve.</p> <p>20. External Cutaneous Nerve.</p> <p>21. Anterior Branch of Third Lum-
bar Nerve.</p> <p>22. Communicating Branch to 18.</p> <p>23. Anterior Branch of the Fourth
Lumbar Nerve.</p> <p>24. Communicating Branch to 21.</p> <p>25. Obturator Nerve.</p> <p>26. Anterior Branch of the Fifth
Lumbar Nerve.</p> <p>27. Communicating Branch to 23.</p> <p>28. Anterior Branch of First Sacral
Nerve. [ral Nerve.</p> <p>29. Anterior Branch of Second Sac-</p> <p>30. Anterior Branch of Third Sacral
Nerve.</p> <p>31. Sciatic Plexus.</p> <p>32. Hemorrhoidal Nerves.</p> <p>33. Vesical Nerves.</p> <p>34. Anterior Branch of the Fourth
Sacral.</p> <p>35. Communicating Branch with 30.</p> <p>36. Pubic Plexus.</p> <p>37. Cutaneous Nerve of the Thigh.</p> <p>38. Inferior Hemorrhoidal Nerve.</p> <p>39. Anastomosis with 36.</p> <p>40. Pubic Nerve.</p> <p>41. Superficial Pudic.</p> <p>42. Superior Pudic.</p> <p>43. Cutaneous Branches to the Penis.</p> <p>44. Branch to the Glans Penis.</p> |
|--|-------------------|--|

FIG. II. NERVES OF THE PENIS.

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|---|--|
| <p><i>a.</i> Corpus Cavernosum Penis.</p> <p><i>b.</i> Urethra.</p> | <p><i>c.</i> Glans Penis.</p> <p><i>d.</i> Dorsal Vein of the Penis.</p> |
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- | | |
|------------------------|----------------------|
| 1. Nerve of the Penis. | 5. Right Plexus. |
| 2. Cutaneous Branches. | 6. Left Plexus. |
| 3. External Branch. | 7. Cutaneous Branch. |
| 4. Internal Branch. | 8. Branch to Glans. |

FIG. III.

- | | |
|---|---|
| a. Fifth Lumbar Vertebrae. | 6. Communicating Branch to Third Lumbar. |
| b. Articular Processes of the Lumbo-sacral Joint. | 7. Internal { Branches of the Posterior Division of the Fifth Lumbar Nerve. |
| c. Coccyx. | 8. External { |
| d. Tuberosity of the Ischium. | 9. Trunk formed by the Posterior Sacral Nerves. |
| e. Femur. | 10. Posterior Branch of the Third Sacral Nerve. |
| f. Sacro-sciatic Ligament. | 11. Posterior Branch of the Fourth Sacral Nerve. |
| g. Anus. | 12. Cutaneous Branch to Gluteal Region. |
| h. Vulva. | 13. Superior Gluteal Nerve. |
| i. Perineum. | 14. Muscular Branch. |
| k. Multifidus Spinae muscle. | 15. Sciatic Plexus. |
| l. Sphincter ani Externus | 16. Muscular Branch. |
| m. Constrictor Vaginae | 17. Inferior Gluteal Nerve. |
| n. Levator Ani | 18. Posterior Cutaneous Nerve of the Thigh. |
| o. Transversus Perinei | 19. Inferior Cutaneous Nerves of Gluteal Region. |
| p. Crus of the Clitoris | 20. Cutaneous Branch to Genitalia. |
| q. Gluteus Magnus | 21. Cutaneous Branch to Back of Thigh. |
| r. Gluteus Medius | 22, 23. Muscular Branches. |
| s. Gluteus Minimus | 24. Sciatic Nerve. |
| t. Piriformis | 25, 26. Muscular Branches. |
| u. Gemellus Superior | 27. Anterior Branch of Fourth Sacral Nerve. |
| v. Gemellus Inferior | 28. External Pudic Plexus. |
| w. Quadratus Femoris | 29. Inferior Hemorrhoidal Nerve. |
| x. Obturator Internus | 30. External Pudic Nerve. |
| y. Long Head of Biceps Femoris | 31. Superficial Pudic Nerve. |
| z. Semitendinosus | 32. Anastomosis with 18. |
| a. Adductor Magnus | |
-
- | | |
|--|--|
| 1. Internal { Branches of the Posterior Division of the Third Lumbar Nerve. | |
| 2. External { | |
| 3. Communicating Branch to Second Lumbar. | |
| 4. Internal { Branches of the Posterior Division of the Fourth Lumbar Nerve. | |
| 5. External { | |

Muscles.

PLATES XLI AND XLII.

- | | |
|-----------------------------------|--------------------|
| A. Left Lung. Posterior Surface. | D. Trachea. |
| B. Right Lung. Posterior Surface. | E. Left Bronchus. |
| C. Section of Right Lung. | F. Right Bronchus. |

- G* to *L*. Division of *F*.
M. Heart.
N. Coronary Veins.
O. Vena Cava. Section.
P. Foramen Ovale.
Q. Eustachian Valve.
R. Columnæ Carneæ.
S. Sinus of Pulmonary Vein.
T, *U*. Right Pulmonary Veins.
V. Pulmonary Artery.
W. Thoracic Aorta.
X. Left Subclavian Artery.
Y. Innominate Artery.
Z. Œsophagus.
a. First Dorsal Vertebrae.
b. Superior Œsophageal Artery.
c. Right Bronchial Artery.
d, *e*, *f*, *g*. Branches of *c*.
h. Anterior Coronary Artery.
i, *k*, *l*. Branches of *h*.
m. Posterior Coronary Artery.
n. Vena Cordis Media.
o, *p*. Branches of Coronary Vein.
q. Arteries supplying the Coronary Sinus.
r. Veins from the Coronary Sinus.
s. Bronchial Artery.
1. Right Pneumogastric.
2. Recurrens Nerve.
3. Branches to the Trachea.
4. Œsophageal Plexus. [agus.
5. Branches supplying the Œsoph-
6, 7, 8. Branches supplying the Tra-
chea and Tracheal Glands.
9. Branches to the Pulmonary Plexus.
10. Branch to Right Bronchus.
11. Branch to Posterior Pulmonary Plexus.
12-16. Bronchial Branches.
17-19. Branches to the Divisions of the Bronchi and Air Cells of the Lungs.
20-22. Branches of the Posterior Pulmonary Plexus to the Right Bronchus.
23. Communication of 20 and 21.
24. Branch to Right Bronchus and Lung.
25, 26, 27. Branches of 24.
28-32. Branches of 24 following the Division of the Right Bronchus.
33. Branch passing to Anterior Surface of the Lung.
34-36. Branches lying on the Œsophagus.
37-39. Great Œsophageal Plexus.
40, 41. Œsophageal Filaments.
42. Filaments from the Anterior Coronary Plexus.
43. Communicating Branch from the great Cardiac Plexus.
44-48. Filaments accompanying the Anterior Coronary Artery.
49. Branch accompanying the Posterior Coronary Artery.

PLATES XLIII AND XLIV.

FIG. I.

- | | | | |
|--|---|--------------------------|---|
| <p> <i>a</i>. Third
 <i>b</i>. Fourth
 <i>c</i>. Fifth
 <i>d</i>. Sacrum.
 <i>e</i>. Coccyx.
 <i>f</i>. Pubes.
 <i>g</i>. Symphysis Pubis.
 <i>h</i>. Sacro-spinous Ligament. </p> | } | <p>Lumbar Vertebrae.</p> | <p> <i>l</i>. Iliacus Muscle.
 <i>k</i>. Transversalis Abdominis.
 <i>i</i>. Rectus Abdominis.
 <i>m</i>. Internal Abdominal Ring.
 <i>n</i>. Obturator Internus Muscle.
 <i>o</i>. Gluteus Maximus Muscle.
 <i>p</i>. Coccygeus Muscle.
 <i>q</i>. Pyriformis Muscle. </p> |
|--|---|--------------------------|---|

- r.* Abdominal Aorta.
- s.* Common Iliac.
- t.* Femoral Artery.
- u.* Internal Iliac.
- v.* Obturator Artery.
- w.* Gluteal Artery.
- x.* Gluteal Vein.
- y.* Obturator Vein.
- z.* Internal Iliac Vein.
- a.* Spermatic Cord.

- β.* Corpus Cavernosum Penis.
- γ.* Bulb of Urethra.
- 1. Obturator Nerve.
- 2. Lumbar Portion of Sciatic Plexus.
- 3. Pubic Plexus.
- 4. Common Pubic Nerve.
- 5. Superficial Pubic Nerve.
- 6. Superior Pubic Nerve.
- 7. Sacral portion of the Sympathetic.

FIG. II.

- a* to *g.* Same as Fig. 1.
- h.* Ischium.
- i.* Sacro-Sciatic Ligament.
- l.* Obturator Membrane.
- m.* Piriformis Muscle.
- n.* Psoas Muscle.
- o.* Obturator Artery.
- p.* Obturator Vein.
- 1. Obturator Nerve.
- 2. Lumbar Portion of the Sciatic Plexus.
- 3. Gluteal Branch.

- 4. Anterior Branch of First Sacral Nerve.
- 5. Branch from Second Sacral Nerve.
- 6. Third Sacral Nerve.
- 7. Sciatic Plexus.
- 8. Pudic Nerve.
- 9. Inferior Pudendal Nerve.
- 10. Superficial Pudic Nerve.
- 11. Pelvic Portion of the Sympathetic.

PLATES XLV AND XLVI.

- a.* Lesser wings of Sphenoid Bone.
- b.* Petrous Portion of Temporal Bone
- c.* Meatus Auditorius Internus.
- d.* Transverse Sinus.
- e.* Mastoid Process.
- f.* Cervical Vertebrae.
- g.* First Dorsal Vertebrae
- h.* Ligamentum Denticulatum.
- i.* Clavicle.
- k.* Scapulæ.
- l.* Sterno Mastoid.
- m.* Trapezius
- n.* Rhomboideus Major
- o.* Rhomboideus Minor
- p.* Levator Anguli Scapulæ
- q.* Scaleni
- r.* Depressor Anguli Scapulæ

Muscles.

- s.* Omo-hyoid
- t.* Supra-spinatus
- u.* Infra-spinatus
- v.* Deltoid
- w.* Teres Minor
- x.* Teres Major
- y.* Latissimus Dorsi
- z.* Jugular Vein.
- a.* Transversalis Colli Artery.
- β.* Common Carotid.
- γ.* Vertebral Artery.
- δ.* Internal Carotid Artery.
- 1. Optic Nerve.
- 2. Optic Commissure.
- 3. Optic Tract.
- 4. Motor Oculi.
- 5. Medulla Oblongata.

Muscles.

- | | |
|---|--|
| 6. Fourth Ventricle. | 28. Branches of 21 to Sterno-mastoid. |
| 7. Calamus Scriptorius. | 29. Branches from the Second and |
| 8. Striæ. | Third Cervical Nerve to the |
| 9. Trigemini. | Spinal Accessory. |
| 10. Portio Dura. | 30. Terminal Fibres of 19 in the |
| 11. Portio Mollis. | Trapezius. |
| 12. Glosso-pharyngeus. | 31. Spinal Cord. |
| 13. Communicating Branch to Pharyngeal Branch of the Vagus. | 32. Posterior Roots of the Cervical |
| 14. Branches to Internal Carotid Artery. | Nerves. |
| 15. Branch to Communicans Faciei. | 33. First Cervical Nerve. |
| 16. Stylo-pharyngeal Branch. | 34. Branch of 33 to |
| 17. Pneumogastric. | 35. Hypoglossal Nerve. |
| 18. Laryngeal Branch. | 36. Ganglion of |
| 19. Nervus Accessorius Willisii. | 37. Second Cervical Nerve. |
| 20. Anterior Branch. | 38. Branch to Superior Cervical |
| 21. Posterior Branch. | Ganglion. |
| 22. Origin of 19. | 39. Third Cervical Nerve. |
| 23. Spinal Roots. | 40. Fourth Cervical Nerve. |
| 24. Roots from the Medulla Oblongata. | 41. Muscular Branch to Levator Anguli Scapulæ. |
| 25. Anastomosis of 20 with the Vagus. | 42. Fifth Cervical Nerve. |
| 26. Branch of 20 to 27. | 43. Sixth Cervical Nerve. |
| 27. Ganglion of the Pneumogastric. | 44. Branch of 40 to Trapezius. |
| | 45. Branch of 42 to the Trapezius. |
| | 46. Anastomosis of 40 and 42 with 30. |
| | 47. Brachial Plexus. |

PLATES XLVII AND XLVIII.

THE NOSE.

FIG. I. PROFILE OF THE NOSE.

- | | |
|----------------------|---------------------------------|
| a. Root of the Nose. | d. Ala Nasi. |
| b. Dorsum. | e. Septum Narium. (Membranous.) |
| c. Apex. | f. Left External Nasal Opening. |

FIG. II. PROFILE OF THE NOSE, THE INTEGUMENT BEING REMOVED.

- | | |
|---------------------------|-----------------------|
| a to f. Same as Fig. 1. | k. External Horn. |
| g. Nasal Bone. | l. Internal Horn. |
| h. Triangular Cartilage. | m. Angle. |
| i. Cartilage of Ala Nasi. | n. Square Cartilages. |

FIG. III. ANTERIOR ASPECT OF THE NOSE.

LETTERS SAME AS IN PREVIOUS FIGURES.

- | | |
|-------------------------------|-------------------------|
| A. Anterior Aspect. | o. Sesamoid Cartilages. |
| B. Same, denuded of the Skin. | |

FIG. IV. INFERIOR ASPECT OF THE NOSE.

Letters same as in preceding. | *p.* Cartilaginous Septum.

FIG. V. CARTILAGES OF THE NOSE.

FIG. VI. SIDE VIEW OF THE TRIANGULAR CARTILAGE OF THE NOSE.

FIG. VII. SEPTUM OF THE NOSE.

A. Side View. | *B.* Anterior Aspect. (Cartilaginous.)

FIG. VIII. BONY PORTION OF THE NOSE.

- | | |
|--|--|
| <i>a.</i> Frontal Bone. | <i>t.</i> Perpendicular Plate. |
| <i>b.</i> Nasal Portion. | <i>u.</i> Superior Maxillary Bone. |
| <i>c.</i> Frontal Sinus. | <i>v.</i> Alveolar Process. |
| <i>d.</i> Superior Nasal Spine. | <i>w.</i> Palate Process. |
| <i>e.</i> Orbital Process of Frontal Bone. | <i>x.</i> Nasal Crest. |
| <i>f.</i> Sphenoid. | <i>y.</i> Anterior Palatine Canal. |
| <i>g.</i> Body. | <i>z.</i> Anterior-Inferior Nasal Spine. |
| <i>h.</i> Sphenoidal Sinus. | <i>a.</i> Nasal Process. |
| <i>i.</i> Ala Minor. | <i>β.</i> Meatus Inferior. |
| <i>k.</i> Optic Foramen. | <i>γ.</i> Inferior Turbinated Bone. |
| <i>l.</i> Ala Magna. | <i>δ.</i> Middle Meatus. |
| <i>m.</i> Cornu Sphenoidale. | <i>ε.</i> Ethmoid Bone. |
| <i>n.</i> Spheno-palatine Foramen. | <i>ζ.</i> Cribriform Plate. |
| <i>o.</i> Pterygoid Process. | <i>η.</i> Superior Turbinated Bone. |
| <i>p.</i> External } Pterygoid Plates. | <i>θ.</i> Superior Meatus. |
| <i>q.</i> Internal } | <i>ι.</i> Middle Turbinated Bone. |
| <i>r.</i> Palate Bone. | <i>κ.</i> Nasal Bone. |
| <i>s.</i> Horizontal Plate. | |

FIGS. IX TO XIV. SECTIONS OF THE NASAL CAVITY WITH THE SOFT PARTS.

FIG. IX.

- | | |
|----------------------------------|-----------------------------------|
| <i>a.</i> Lateral Cartilages. | <i>d.</i> Outer Wall of the Nose. |
| <i>b.</i> Cartilaginous Septum. | <i>e.</i> Nasal Orifices. |
| <i>c.</i> Schneiderian Membrane. | |

FIG. X.

- | | |
|---|--|
| <i>a.</i> Nasal Bone. | <i>g.</i> Nasal Crest. |
| <i>b.</i> Inferior Turbinated Bone. | <i>h.</i> Nasal Process of Superior Maxilla. |
| <i>c.</i> Palate Process of Upper Maxilla. | <i>i.</i> Lachrymal Sac. |
| <i>d.</i> Inner Wall of Antrum. | <i>k.</i> Lachrymal Canal. |
| <i>e.</i> Perpendicular Plate of the Ethmoid. | <i>l.</i> Lower Opening of <i>k.</i> |
| <i>f.</i> Cartilaginous Septum of the Nose. | <i>m, n, o.</i> Mucous Membrane of Nasal Cavity. |

FIG. XI.

- | | |
|---|--|
| <p><i>a.</i> Frontal Bone.</p> <p><i>b.</i> Dura Mater.</p> <p><i>c.</i> Crista Galli.</p> <p><i>d.</i> Cribriform Plate of the Ethmoid.</p> <p><i>e.</i> Vertical Plate of the Ethmoid.</p> <p><i>f.</i> Middle Turbinated Bone.</p> <p><i>g.</i> Ethmoidal Cells.</p> <p><i>h.</i> Lamina Papyracea Ossis Ethmoidei.</p> <p><i>i.</i> Inferior Turbinated Bone.</p> <p><i>k.</i> Vomer.</p> <p><i>l.</i> Superior Maxillary Bone.</p> | <p><i>m.</i> Antrum of Highmore.</p> <p><i>n.</i> Mucous Membrane lining it.</p> <p><i>o.</i> Zygomatic Process.</p> <p><i>p.</i> Orbital Surface.</p> <p><i>q.</i> Palate Process.</p> <p><i>r.</i> Nasal Crest.</p> <p><i>s.</i> Alveolar Process.</p> <p><i>t.</i> Inferior Meatus.</p> <p><i>u.</i> Middle Meatus.</p> <p><i>v.</i> Nasal Canal.</p> <p><i>w.</i> Opening of the Antrum.</p> |
|---|--|

FIGS. XII AND XIII.

- | | |
|--|---|
| <p><i>a.</i> Nasal Bone.</p> <p><i>b.</i> Frontal Bone.</p> <p><i>c.</i> Frontal Sinus.</p> <p><i>d.</i> Ethmoid Bone.</p> | <p><i>e.</i> Sphenoid Bone.</p> <p><i>f.</i> Sphenoidal Sinus.</p> <p><i>g.</i> Mucous Membrane of <i>f.</i></p> <p><i>h.</i> Septum of the Nose.</p> |
|--|---|

PLATES XLIX AND L.

NERVES OF THE NASAL FOSSÆ.

FIG. I.

- | | |
|---|---|
| <p><i>a.</i> Spinous Processes of Second and Third Cervical Vertebrae.</p> <p><i>b.</i> Transverse Processes.</p> <p><i>c.</i> Atlas.</p> <p><i>d.</i> Occipital Bone.</p> <p><i>e.</i> Sphenoid Bone.</p> <p><i>f.</i> Sphenoidal Sinus.</p> <p><i>g.</i> Frontal Bone.</p> <p><i>h.</i> Frontal Sinus.</p> <p><i>i.</i> Nasal Bone.</p> <p><i>k.</i> Superior Maxillary Bone.</p> <p><i>l.</i> Palate Process.</p> <p><i>m.</i> Alveolar Process.</p> <p><i>n.</i> Inferior Turbinated Bone.</p> <p><i>o.</i> Middle Turbinated Bone.</p> <p><i>p.</i> Superior Turbinated Bone.</p> <p><i>q.</i> Cribriform Plate of Ethmoid.</p> <p><i>r.</i> Lower Jaw.</p> <p><i>s.</i> Hyoid Bone.</p> <p><i>t.</i> Pterygo-palatine Canal.</p> <p><i>u.</i> Tongue.</p> | <p><i>v.</i> Velum Pendulum Palati.</p> <p><i>w.</i> Uvula.</p> <p><i>x.</i> Fauces.</p> <p><i>y.</i> Tonsils.</p> <p><i>z.</i> Pharynx.</p> <p><i>a.</i> Eustachian Tube.</p> <p><i>β.</i> Œsophagus.</p> <p><i>γ.</i> Larynx.</p> <p><i>δ.</i> Epiglottis.</p> <p><i>ε.</i> Ventriculus Morgani.</p> <p><i>ζ.</i> Thyroid Cartilage.</p> <p><i>η.</i> Cricoid Cartilage.</p> <p><i>θ.</i> Trachea.</p> <p><i>ι.</i> Thyroid Gland.</p> <p><i>κ.</i> Dura Mater of the Spinal Cord.</p> <p><i>λ.</i> Genio-glossus Muscle.</p> <p><i>μ.</i> Genio-hyoid “</p> <p><i>ν.</i> Mylo-hyoid “</p> <p><i>ξ.</i> Thyro-hyoid Membrane.</p> <p><i>σ.</i> Common Carotid Artery.</p> <p><i>π.</i> External Carotid Artery.</p> |
|---|---|

- | | |
|---|---|
| <p> <i>ρ</i>. Superior Thyroid.
 <i>σ</i>. Superior Laryngeal.
 <i>υ</i>. Lingual Artery.
 <i>ν</i>. Ascending Pharyngeal.
 <i>φ</i>. Internal Carotid.
 <i>χ</i>. Vertebral.
 <i>ψ</i>. Palatine.
 <i>ω</i>. Branches of <i>ψ</i>.
 1. Roots of the three upper Cervical Nerves.
 2. Anterior Root of the First Cervical Nerve.
 3. Anterior Root of the Second Cervical Nerve.
 4. Communicating Loop.
 5. Branch to Hypoglossal.
 6. Branch to Superior Cervical Ganglion.
 7. Anterior Branch of third Cervical Nerve.
 8. Branch to Superior Cervical Ganglion.
 9. Communicating Loop.
 10. Branch of 9 to Superior Cervical Ganglion.
 11. Glossopharyngeus Nerve.
 12. Branch to Pharyngeal Plexus.
 13. Pharyngeal Branch.
 14. Lingual Branch.
 15. Vagus.
 16. Pharyngeal Branch.
 17. Superior Laryngeal.
 18. Internal Branch.
 19. Branch to Epiglottis.
 20. External Laryngeal Branch.
 21. Hypoglossal. </p> | <p> 22. External Branch of Olfactory Nerve.
 23. Ethmoidal Branch of Trigeminus.
 24. Entrance into the Nasal Fossa.
 25. Branch to Septum of the Nose.
 26. Branch to Wall of the Nasal Fossa.
 27. Branch to Outer Part of Nose.
 28. Spheno-palatine Nerve.
 29. Spheno-palatine Ganglion.
 30. Nerve to the Septum of the Nose.
 31. Superior-Posterior Nasal Nerve.
 32. Superior-Anterior Nasal Nerve.
 33. Vidian Nerve.
 34. Pharyngeal Branch.
 35. Palatine Nerve.
 36. External Branch.
 37. Internal Branch.
 38. Anterior Branch.
 39. Middle Nasal Nerve.
 40. Inferior Nasal Nerve.
 41. Internal Branch of 38.
 42. External Branch of 38.
 43. Superior Cervical Ganglion.
 44. Branch joining External Laryngeal.
 45. Long Cardiac Nerve. [geal.
 46. Sympathetic Nerve.
 47. Plexus Nervorum Mollium.
 48. Branch joining Internal Laryngeal.
 49. Branch joining External Laryngeal.
 50. Branch joining Pharyngeal.
 51. Trunk of 46. [lion.
 52. Branch of 51 to Petrosal Ganglion. </p> |
|---|---|

FIG. II. DISTRIBUTION OF NASAL NERVES TO THE
MUCOUS MEMBRANE OF THE NOSE.

- | | |
|--|--|
| <p> <i>a</i>. Frontal Bone.
 <i>b</i>. Frontal Sinus.
 <i>c</i>. Nasal Bone.
 <i>d</i>. Sphenoid Bone.
 <i>e</i>. Sphenoidal Sinus.
 <i>f</i>. Superior Maxillary Bone. </p> | <p> <i>g</i>. Incisive Canal.
 <i>h</i>. Anterior-Inferior Nasal Spine.
 <i>i</i>. Velum Palati.
 <i>k</i>. Posterior Nares.
 <i>l</i>. Eustachian Tube.
 <i>m</i>. Inner Surface of the Mucous Membrane of the Septum. </p> |
|--|--|

- | | |
|---|-------------------------------------|
| 1. Inner Branches of the Olfactory Nerve. | 3. Naso-palatine Nerve. (Scarpa.) |
| 2. Branch of Ethmoidal Nerve to the Septum. | 4. Naso-palatine Ganglion. |
| | 5. Nerve of the Septum of the Nose. |
| | 6. Posterior Superior Nasal Nerve. |

FIG. III. MUCOUS MEMBRANE OF THE NOSE, ENLARGED NINETY DIAMETERS.

- | | |
|-----------------------|----------------------|
| a. Basement Membrane. | e. Hair. |
| b. Pits. | f. Bulb of the Hair. |
| c. Mucous Glands. | g. Sheath. |
| d. Their Openings. | |

FIG. IV. MUCOUS FOLLICLES. TWO HUNDRED DIAMETERS.

PLATES LI AND LII.

THE EYE.

FIG. I.

- | | |
|-----------------------------------|---------------------------|
| a. Eyebrow. | k. Lachrymal Duct. |
| b. Its External Portion. | l. Puncta Lachrymalis. |
| c. Upper Eyelid. | m. Caruncula Lachrymalis. |
| d. Lower Eyelid. | n. Eyeball. |
| e. Margin. | o. Iris. |
| f. Cilia. | p. Pupil. |
| h. Internal } Commissures and An- | q. Conjunctiva. |
| i. External } gles of the eye. | |

FIG. II. ARTERIES OF THE EYE.

- | | |
|---------------------------------|---|
| a. Superior } Eyelid. | g. Branch of Superior Coronary of Facial. |
| b. Lower } Eyelid. | h. Branch of Facial. |
| c. External } Canthus. | i. Branch of Transverse Facial. |
| d. Internal } Canthus. | k. Branches of Temporal Artery. |
| e. Orbicularis Palpebrarum. | |
| f. Branch of Ophthalmic Artery. | |

FIG. III. NERVES OF THE EYELIDS.

- | | |
|---|--|
| a to e. Same as Fig. 2. | l. Superior Palpebral. |
| f. Frontal Branch of Supra-orbital Nerve. | m. Cutaneous Plexus. |
| g. Branch to the Forehead. | n. Inferior Palpebral. |
| h, i. Branch to Frontalis Muscle. | o. Branches which join the Facial Nerve. |
| k. Superciliary Branch of f. | p. Branches of Frontal Artery. |

FIG. IV. GLANDS OF THE ORBIT. POSTERIOR VIEW.

- | | |
|---------------------------|---------------------|
| a to e. Same as Fig. 2. | i. Lachrymal Gland. |
| f. Puncta Lachrymalis. | k. Duct. |
| g. Meibomian Glands. | l. Conjunctiva. |
| h. Caruncula Lachrymalis. | |

FIG. V TO VIII. MUSCLES OF THE EYEBALL.

- | | | |
|------------------------|---|-------------------|
| <i>a.</i> Optic Nerve. | <i>g.</i> Inferior | } Oblique Muscle. |
| <i>b.</i> Eyeball. | <i>h.</i> Superior | |
| <i>c.</i> Superior | <i>i.</i> Trochlea. | |
| <i>d.</i> Internal | <i>k.</i> Levator Palpebræ Superioris. | |
| <i>e.</i> Inferior | <i>l.</i> Tendinous Origin of the Recti | |
| <i>f.</i> External | Muscles. | |

FIG. IX. LACHRYMAL APPARATUS.

- | | |
|----------------------------------|-------------------------------|
| <i>A.</i> Anterior Aspect. | <i>b.</i> Puncta Lachrymalis. |
| <i>B.</i> Side View. | <i>c.</i> Canals for Tears. |
| <i>C.</i> Posterior Aspect. | <i>d.</i> Lachrymal Sac. |
| <i>a.</i> Caruncula Lachrymalis. | <i>e.</i> Nasal Duct. |

FIG. X. ARTERIES OF THE EYEBALL.

- | | |
|------------------------|-------------------------------------|
| <i>a.</i> Optic Nerve. | <i>f.</i> Obliquus Superior Muscle. |
| <i>b.</i> Eyeball. | <i>g.</i> Internal Carotid Artery. |
| <i>c.</i> Superior | <i>h.</i> Ophthalmic Artery. |
| <i>d.</i> External | <i>i.</i> Ciliary Arteries. |
| <i>e.</i> Internal | <i>k.</i> Veins of the Eyeball. |

FIG. XI. NERVES OF THE EYEBALL.

- | | |
|--|-----------------------------|
| <i>a.</i> to <i>i.</i> Same as Fig. 5. | <i>m.</i> Ciliary Ganglion. |
| <i>k.</i> Motor Oculi Nerve. | <i>n.</i> Ciliary Nerves. |
| <i>l.</i> Ophthalmic Division of the Trigem-
minus. | <i>o.</i> Abducens Nerve. |

FIG. XII. CHOROID COAT OF THE EYE.

- | | |
|--------------------------|---|
| <i>a.</i> Optic Nerve. | <i>f, g.</i> Vasa Vorticosa. |
| <i>b.</i> Sclerotic. | <i>h.</i> Ciliary Ligament. [ment.] |
| <i>c.</i> Cornea. | <i>i.</i> Attachment of the Ciliary Liga- |
| <i>d.</i> Annulus Niger. | <i>l.</i> Long Ciliary Nerve. |
| <i>e.</i> Choroid. | <i>m.</i> Short Ciliary Nerve. |

FIG. XIII. ANTERIOR ASPECT OF THE EYEBALL. THE SCLEROTIC AND CORNEA BEING REMOVED.

- | | | |
|-----------------------------|------------------|---------|
| <i>a.</i> Choroid. | <i>e.</i> Inner | } Lips. |
| <i>b.</i> Vasa Vorticosa. | <i>f.</i> Outer | |
| <i>c.</i> Ciliary Nerves. | <i>g.</i> Iris. | |
| <i>d.</i> Ciliary Ligament. | <i>h.</i> Pupil. | |

FIG. XIV. ANTERIOR HALF OF THE CHOROID AND THE IRIS FROM THE BACK.

- | | | |
|--------------------|---|---------------------------|
| <i>a.</i> Choroid. | <i>b.</i> Pigment Layer of the Choroid. | <i>c.</i> Corpus Ciliare. |
|--------------------|---|---------------------------|

FIG. XV.

- | | | |
|------------------------------|--|---------------------------------------|
| <i>a.</i> Tunica Ruyschiana. | | <i>d.</i> Ciliary Circle of Arteries. |
| <i>b.</i> Ciliary Body. | | <i>e.</i> Veins of the Iris. |
| <i>c.</i> Ciliary Process. | | <i>f.</i> Plexuses of the Iris. |

FIG. XVI.

- | | | |
|-----------------------------|--|-----------------------------|
| <i>a.</i> Retina. | | <i>d.</i> Ora Serrata. |
| <i>b.</i> Limbus Luteus. | | <i>e.</i> Crystalline Lens. |
| <i>c.</i> Its Outer Border. | | |

FIG. XVII. EPITHELIUM ON THE OUTER SURFACE OF THE CORNEA.
TWO HUNDRED DIAMETERS.

- | | | |
|-----------------------------|--|--------------------|
| <i>a.</i> Epithelial Cells. | | <i>b.</i> Nucleus. |
|-----------------------------|--|--------------------|

FIG. XVIII. SECTION OF THE CORNEA.

- | | | |
|------------------------|--|--|
| <i>a.</i> Conjunctiva. | | <i>c.</i> Fibrous Layer. |
| <i>b.</i> Cornea. | | <i>d.</i> Cavities between the Fibres. |

FIG. XIX. CORNEA.

- | | | |
|-------------------|--|---------------------------|
| <i>a.</i> Fibres. | | <i>b.</i> Their Junction. |
|-------------------|--|---------------------------|

FIG. XX. TUNICA HUMORIS AQUEI. FOUR HUNDRED DIAMETERS.

FIG. XXI. EPITHELIUM ON THE INNER SURFACE OF THE CORNEA.

- | | | |
|-----------------------------|--|----------------------|
| <i>a.</i> Epithelial Cells. | | <i>c.</i> Nucleolus. |
| <i>b.</i> Nucleus. | | |

FIG. XXII. SCLEROTIC.

- | | | |
|-------------------------------------|--|--------------------------|
| <i>a.</i> Tendon of Rectus Muscles. | | <i>c.</i> Middle Coat |
| <i>b.</i> External Coat. | | <i>d.</i> Internal Coat. |

FIG. XXIII. PIGMENT LAYER OF CHOROID. THREE HUNDRED DIAMETERS.

- | | | |
|--------------------------|--|-----------------------------|
| <i>a.</i> Pigment Cells. | | <i>c.</i> Pigment Granules. |
| <i>b.</i> Nuclei. | | |

FIG. XXIV. CELLS CONNECTING THE LENS TO ITS CAPSULE.

- | | | |
|--------------------------|--|---------------------------------|
| <i>a.</i> Cell Covering. | | <i>c.</i> Intercellular Spaces. |
| <i>b.</i> Nucleus. | | |

FIG. XXV. FIBRES OF THE LENS. TWO HUNDRED DIAMETERS.

- | | | |
|--------------------------|--|-----------------------------------|
| <i>d.</i> Single Fibres. | | <i>b.</i> Junction of two Fibres. |
|--------------------------|--|-----------------------------------|

FIG. XXVI. RETINA MAGNIFIED.

- | | | |
|--------------------------------|--|--|
| <i>a.</i> Jacobson's Membrane. | | <i>d, e, f, g.</i> Different arrangement of <i>b</i> |
| <i>b.</i> Rods. | | and <i>c.</i> |
| <i>c.</i> Cones. | | |

FIG. XXVII. INNER SURFACE OF JACOBSON'S LIGAMENT.

- | | |
|----------------------------------|-------------|
| a. Filaments of the Optic Nerve. | c. Nucleus. |
| b. Nerve Cells. | |

PLATE LII.

FIG. XIV. IRIS.

- a. Circular Muscles of Pupillary Margin. b. Meshes of Muscular Fibres.

FIG. XV. SECTION OF THE EYE.

- | | |
|---|-------------------------------------|
| a. Choroid. | g. Suspensory Ligament of the Lens. |
| b. Ciliary Nerves. | h. Iris. |
| c. Ciliary Ligaments. | i. Pupillary Margin. |
| d. Choroid Reflected. | k. Crystalline Lens. |
| e. Portion containing no Pigment Cells. | l. Retina. |
| f. Ciliary Bodies. | m. Limbus Luteus. |
| | n. Ora Serrata. |

FIG. XVII. LONGITUDINAL OR ANTERO-POSTERIOR SECTION OF THE EYE.

- | | |
|---------------------------------------|--|
| 1. Epithelium. | 30. Jacobson's Membrane. |
| 2. Conjunctiva. | 31. Fibres of Mueller. |
| 3. Cornea. | 32. Globular Layer } of the Retina. |
| 4. Junction of Cornea and Sclerotic. | 33. Granular Layer } |
| 5. Tunica Humoris Aquei. | 34. Vascular Layer } |
| 6. Its Epithelium. | 35. Ora Serrata. |
| 7, 8, 9, Sclerotic Coat. | 36. Limbus Luteus. |
| 10. Corneal Border. | 37. Fovea Centralis. |
| 11. Annulus Niger. | 38. Fold of Retina. |
| 12. Reflected Portion of Sclerotic. | 39. End of Jacobson's Membrane. |
| 13, 14. } Arnold's Membrane ; or | 40. Zonula Zinii. |
| 15, 16. } Arachnoidea Oculi. | 41. Canal of Petit. |
| 17. Vascular Layer } of the Choroid. | 42. Hyaloid Membrane. |
| 18. Pigment Layer } | 43. Raised Portion of 42 over the Limbus Luteus. |
| 19. Ciliary Ligament. | 44. Area Mortegiani. |
| 20. Its insertion into the Sclerotic. | 45. Hyaloid Canal of Fœtus. |
| 21. Ciliary Process. | 46. Capsular Artery. Fœtal. |
| 22. Ciliary Muscle. | 47. Hyaloid Fossa. |
| 23. Iris. | 48. Pupillary Membrane of Fœtus. |
| 24. Uvea. [ous Humor. | 49, 50. Capsule of Lens. |
| 25. Anterior Chamber of the Aque. | 51. Space between the Lens and Capsule. |
| 26. Pupil. | 52. Crystalline Lens. |
| 27. Posterior Chamber. [Lens. | 53. Vitreous Humor. |
| 28. Suspensory Ligament of the | |
| 29. Ciliary Processes. | |

- | | |
|-----------------------------------|-----------------------|
| 54. Optic Nerve. | 57. Capillary Plexus. |
| 55. Entrance of 54 to the Retina. | 58. Axis of the Eye. |
| 56. Neurilemma of 54. | |

PLATES LIII AND LIV.

THE EAR.

FIGS. I-III. CARTILAGE OF THE EAR, WITH ITS MUSCLES.

- | | |
|--------------------------------------|---|
| <i>a.</i> Helix. | <i>r.</i> Dorsum Auriculæ. |
| <i>b.</i> Spine of Helix. | <i>s.</i> Eminentia Scapulæ. |
| <i>c.</i> Crus Helicis. | <i>t.</i> Eminentia Fossæ Triangularis. |
| <i>d.</i> Processus Helicis. | <i>u.</i> Eminentia Cymbæ. |
| <i>e.</i> Anti-helix. | <i>v.</i> Eminentia Conchæ. |
| <i>f.</i> Crura of the Anti-helix. | <i>w.</i> Fissure of the Anti-helix. |
| <i>g.</i> Tragus. | <i>x.</i> Ponticulus. |
| <i>h.</i> Incisura Intertragica. | 1. Attollens Aurem Muscle. |
| <i>i.</i> Anti-tragus. | 2. Attrachnes Aurem Muscle. |
| <i>k.</i> Fossa of the Anti-helix. | 3. Retrachens Aurem Muscle. |
| <i>l.</i> Semilunar Fossa. | 4. Transversus Auriculæ Muscle. |
| <i>m.</i> Scaphoid Fossa. | 5. Helicis Major Muscle. |
| <i>n.</i> Oval Fossa. | 6. Helicis Minor Muscle. |
| <i>o.</i> Concha. | 7. Tragicus Muscle. |
| <i>p.</i> Cymba Conchæ. | 8. Anti-tragicus Muscle. |
| <i>q.</i> Lower Portion of <i>o.</i> | |

FIGS. IV AND V. FETAL TEMPORAL BONE.

- | | |
|------------------------------|----------------------------|
| <i>a.</i> Squamous Portion. | <i>c.</i> Annulus Tympani. |
| <i>b.</i> Zygomatic Process. | <i>f.</i> Malleus. |
| <i>c.</i> Mastoid Portion. | <i>g.</i> Incus. |
| <i>d.</i> Petrous Portion. | <i>h.</i> Stapes. |

FIG. VI. VERTICAL SECTION OF THE ORGAN OF HEARING.

- | | |
|--|--|
| <i>a.</i> External Ear. | <i>n.</i> Ligaments. |
| <i>b.</i> Lobule. | <i>o.</i> Posterior Portion of Cartilage of Ear. |
| <i>c.</i> Helix. | <i>p.</i> Mucous Membrane of Meatus Auditorius. |
| <i>d.</i> Anti-helix. | <i>q.</i> Membrana Tympani. |
| <i>e.</i> Anti-tragus. | <i>r.</i> Mastoid Process. |
| <i>f.</i> Integument. | <i>s.</i> Mastoid Cells. |
| <i>g.</i> Adipose Tissue. | <i>t.</i> Dura Mater. |
| <i>h.</i> Temporal Muscle. | <i>u.</i> Transverse Sinus. |
| <i>i.</i> Deep Temporal Artery. | <i>v.</i> Tendon of Sterno-mastoid. |
| <i>k.</i> Fat in the Temporal Fossa. | <i>w.</i> Integument of Pinna. |
| <i>l.</i> Anterior Portion of Osseous Ear. | <i>x.</i> Fatty Tissue. |
| <i>m.</i> Anterior Portion of Cartilaginous Ear. | |

y. External Meatus Auditorius. | *z. a. β.* Curves of *y.*

FIG. VII. TEMPORAL BONE—LONG EXTERNAL MEATUS REMOVED.

<i>a.</i> Squamous Portion.	<i>h.</i> Fenestra Rotunda.	
<i>b.</i> Zygomatic Process.	<i>i.</i> Malleus.	
<i>c.</i> Glenoid Cavity.	<i>k.</i> Incus.	
<i>d.</i> Mastoid Portion.	<i>l.</i> Stapes.	
<i>c.</i> Meatus Auditorius.	<i>m.</i> Stapedius Muscle.	
<i>f.</i> Tympanum.	<i>n.</i> Tensor Tympani	} Muscle.
<i>g.</i> Petrous Portion.	<i>o.</i> Laxator Tympani	

FIG. VIII. TEMPORAL BONE AND EUSTACHIAN TUBE.

<i>a.</i> Eustachian Tube.	<i>e.</i> Incus.
<i>b.</i> Tensor Tympani Muscle.	<i>f.</i> Stapes.
<i>c.</i> Stapedius Muscle.	<i>g.</i> Fenestra Rotunda.
<i>d.</i> Malleus.	

FIG. IX. NERVES OF THE MIDDLE EAR.

<i>a.</i> Anterior Portion of Petrous Bone.	<i>k.</i> Tendon of <i>i.</i>
<i>b.</i> End of Osseous Meatus Auditorius.	<i>l.</i> Stapedius Muscle.
<i>c.</i> Membrana Tympani.	<i>m.</i> Its Tendon.
<i>d.</i> Head of Malleus.	<i>n.</i> Ligament connecting the Malleus and Incus.
<i>e.</i> Manubrium.	<i>o.</i> Posterior Ligament of the Incus.
<i>f.</i> Cervix of Malleus.	<i>p.</i> Trunk of Facial Nerve.
<i>g.</i> Short or Processus Brevis of Incus.	<i>q.</i> Branch of Vidian Nerve to <i>p.</i>
<i>h.</i> Processus Longus.	<i>r.</i> Branch to Tensor Tympani.
<i>i.</i> Tensor Tympani.	<i>s.</i> Branch to Stapedius.
	<i>t.</i> Chorda Tympani.

FIG. X. CHORDA TYMPANI NERVE

<i>a.</i> Capitulum of Malleus.	<i>f.</i> Membrana Tympani.
<i>b.</i> Manubrium.	<i>g.</i> Facial Nerve.
<i>c.</i> Processus Brevis of Incus.	<i>h.</i> Chorda Tympani.
<i>d.</i> Processus Longus.	<i>i, k.</i> Its Curves.
<i>e.</i> Os Lenticulare.	

FIG. XI. SECTIONAL VIEW OF EAR.

<i>a.</i> External Ear.	<i>h.</i> Lenticular Bone.	
<i>b.</i> Entrance to Cartilaginous Meatus.	<i>i.</i> Labyrinth.	
<i>c.</i> Meatus Auditorius Externus.	<i>k.</i> Vestibule.	
<i>d.</i> Membrana Tympani.	<i>l.</i> Cochlea.	
<i>e.</i> Malleus.	<i>m.</i> Superior	} Semi-circular Canal.
<i>f.</i> Incus.	<i>n.</i> Posterior	
<i>g.</i> Stapes.	<i>o.</i> External	

FIG. XII. OSSEOUS PORTION OF EAR.

- | | |
|----------------------------|---|
| <i>a.</i> Squamous Portion | <i>c.</i> Internal Auditory Meatus. |
| <i>b.</i> Petrous Portion. | <i>d</i> to <i>o.</i> Same as in Figure XI. |

FIG. XIII. OSSICULA AUDITUS.

- | | |
|--|-------------------------------|
| <i>A.</i> Malleus. | <i>a.</i> Head. |
| <i>a.</i> Head. | <i>b.</i> Glenoid Cavity. |
| <i>b.</i> Articular Surface for Incus. | <i>c.</i> Posterior Crus. |
| <i>c.</i> Tubercle. | <i>d.</i> Sulcus. |
| <i>d.</i> Neck. | <i>e.</i> Anterior Crus. |
| <i>e.</i> Manubrium. | <i>f.</i> Foramen. |
| <i>f.</i> Processus Gracilis. | <i>g.</i> Base. |
| <i>B.</i> Incus. | <i>h.</i> External Surface. |
| <i>a.</i> Body. | <i>i.</i> Internal Surface. |
| <i>b.</i> Processus Brevis. | <i>D.</i> Section of Malleus. |
| <i>c.</i> Processus Longus. | <i>E.</i> Section of Incus. |
| <i>d.</i> Os Lenticulare. | <i>F.</i> Section of Stapes. |
| <i>C.</i> Stapes. | |

FIG. XIV. BONY LABYRINTH.

- | | |
|-----------------------------|-------------------------------|
| <i>A.</i> Labyrinth. | <i>m.</i> Head. |
| <i>a.</i> Vestibule. | <i>n.</i> Cervix. |
| <i>b.</i> Fenestra Rotunda. | <i>o.</i> Manubrium. |
| <i>c.</i> Superior | <i>p.</i> Processus Gracilis. |
| <i>d.</i> Posterior | <i>C.</i> Incus. |
| <i>e.</i> External | <i>g.</i> Processus Brevis. |
| <i>f.</i> Ampullæ. | <i>r.</i> Processus Longus. |
| <i>g.</i> Cochlea. | <i>s.</i> Body. |
| <i>h.</i> First | <i>t.</i> Os Orbiculare. |
| <i>i.</i> Second | <i>D.</i> Stapes. |
| <i>k.</i> Third | <i>u.</i> Head. |
| <i>l.</i> Cupola. | <i>v.</i> Anterior Crus. |
| <i>B.</i> Malleus. | <i>w.</i> Base. |

PLATES LV AND LVI.

INTERNAL EAR.

FIG. I OSSEOUS LABYRINTH. EXTERNAL ASPECT.

- | | |
|-----------------------------|--|
| <i>a.</i> Vestibule. | <i>g.</i> Ampullæ. |
| <i>b.</i> Fenestra Rotunda. | <i>h.</i> Cochlea. |
| <i>c.</i> Fenestra Ovalis. | <i>i, k, l.</i> Spiral Canal of Cochlea. |
| <i>d.</i> Upper | <i>m.</i> Cupola. |
| <i>e.</i> Posterior | |
| <i>f.</i> External | |

FIG. II. OSSEOUS LABYRINTH. INNER ASPECT.

- | | |
|---|---------------------------------|
| <i>a</i> to <i>l</i> . Same as in Fig. 1. | <i>o</i> . Aquæductus Cochlea. |
| <i>m</i> . Macula Cribosa Superior. | <i>p</i> . Infundibulum. |
| <i>n</i> . Macula Cribosa Inferior. | <i>q</i> . Openings for Nerves. |

FIG. III. LABYRINTH. SECTIONAL VIEW.

- | | |
|---|--|
| <i>a</i> to <i>l</i> . Same as in Fig. 1. | <i>r</i> . Aquæductus Cochlea. |
| <i>m</i> . Lamina Spiralis. | <i>s</i> . Fovea Hemispherica. |
| <i>n</i> . Hamulus. | <i>t</i> . Fovea Semielliptica. |
| <i>o</i> . Trabeculæ. | <i>u</i> . Pyramid. |
| <i>p</i> . Infundibulum. | <i>v</i> . Aquæductus Vestibuli. |
| <i>q</i> . Scala Tympani. | <i>w</i> . Openings of Semi-circular Canals. |

FIG. IV. SECTIONAL VIEW OF FIG. II

- | | |
|---|--|
| <i>a</i> to <i>m</i> . Same as in Fig. 1. | <i>n</i> . Openings of the External Semi-circular Canal. |
|---|--|

FIG. V. SAME AS FIG. III.

- | | |
|--|--|
| <i>a</i> to <i>m</i> . Same as in Fig. 1. | <i>t</i> . Ostium Tubuli. |
| <i>n</i> . Saculus Rotundus. | <i>u</i> . Membranous Lamina Spiralis. |
| <i>o</i> . Saculus Ovalis. | <i>v</i> . Cartilaginous Zone. |
| <i>p</i> . Space between <i>n</i> and <i>o</i> . | <i>w</i> . Membranous Zone. |
| <i>q</i> . Membranous Semi-circular Canals. | <i>x</i> . Crista Spiralis. |
| <i>r</i> . Membranous Ampullæ. | <i>y</i> . Hamulus Cartilaginosus. |
| <i>s</i> . Ostium Sinus. | <i>z</i> . Internal Smooth Surface of <i>w</i> . |
| | <i>a</i> . External Rough Surface of <i>w</i> . |

FIG. VI.

- | | |
|---|------------------------------|
| <i>a</i> to <i>h</i> . Same as in Fig. 1. | <i>n</i> . Portio Mollis. |
| <i>i</i> . Saculus Ovalis. | <i>o</i> . Cochlea Nerve. |
| <i>k</i> . Membranous Semi-circular Canals. | <i>p</i> . Vestibular Nerve. |
| <i>l</i> . Ampullæ. | <i>q</i> . Middle Branch. |
| <i>m</i> . Facial Nerve. | <i>r</i> . Inferior Branch. |
| | <i>s</i> . Superior Branch. |

FIG. VII. SIDE VIEW OF FIG. VI.

Letters same as Fig. 6.

FIG. VIII. COCHLEA.

- | | |
|--|--|
| <i>a</i> . Meatus Auditorius Internus. | <i>h</i> . Infundibulum. |
| <i>b</i> . Vestibule. | <i>i</i> , <i>k</i> , <i>l</i> . Spiral Canal. |
| <i>c</i> . Cochlea. | <i>m</i> . Cupola. |
| <i>d</i> . Modiolus. | <i>n</i> . Lamina Spiralis. |
| <i>e</i> . Base. | <i>o</i> . Hamulus. |
| <i>f</i> . Columella. | <i>p</i> . Scala Vestibuli. |
| <i>g</i> . Lamina Modioli | <i>q</i> . Scala Tympani. |

FIG. IX. COCHLEA, WITH MEMBRANOUS PARTS.

FIG. X. EUSTACHIAN TUBE IN A LONGITUDINAL SECTION OF THE SKULL.

- | | |
|--|--|
| <p><i>a.</i> Sphenoid Bone.</p> <p><i>b.</i> Sphenoidal Sinus.</p> <p><i>c.</i> Frontal Bone.</p> <p><i>d.</i> Nasal Fossa.</p> <p><i>e.</i> Palate Process of Upper Maxilla.</p> <p><i>f.</i> Petrous Portion of Temporal Bone.</p> | <p><i>g.</i> Styloid Process.</p> <p><i>h.</i> Membrana Tympani.</p> <p><i>i.</i> Eustachian Tube.</p> <p><i>k.</i> Its Orifice.</p> <p><i>l.</i> Pharynx.</p> |
|--|--|

PLATE LV.

FIG. XI. MICROSCOPIC SECTION OF THE INTEGUMENT OF THE HAND, SHOWING A SWEAT GLAND.

- | | |
|---|--|
| <p><i>a.</i> Epidermis.</p> <p><i>b.</i> Superficial Layer.</p> <p><i>c.</i> Rete Mucosum.</p> <p><i>d.</i> Papilla.</p> <p><i>e.</i> Corium.</p> | <p><i>f.</i> Cellular Tissue.</p> <p><i>g.</i> Sweat Gland.</p> <p><i>h.</i> Double Origin.</p> <p><i>i.</i> Duct. [Epidermis.</p> <p><i>k.</i> Opening on the Surface of the</p> |
|---|--|

FIG. XII. HAIR. ITS FOLLICLES.

- | | |
|---|---|
| <p><i>a.</i> Bulb of the Hair.</p> <p><i>b.</i> Cuta.</p> <p><i>c.</i> Cuticula.</p> <p><i>d.</i> Root of the Hair.</p> | <p><i>e.</i> Shaft.</p> <p><i>f.</i> Glands.</p> <p><i>g.</i> Its Duct.</p> |
|---|---|

FIG. XIII. SEBACEOUS GLAND FROM THE EXTERNAL EAR.

- | | |
|-----------------------------------|----------------------------|
| <p><i>a.</i> Lobule of Gland.</p> | <p><i>b.</i> Its Duct.</p> |
|-----------------------------------|----------------------------|

FIG. XIV. A SECTION OF SKIN FROM THE HUMAN BODY. THREE HUNDRED DIAMETERS.

- | | |
|--|---|
| <p><i>a.</i> Epidermis.</p> <p><i>b.</i> Rete Mucosum.</p> <p><i>c.</i> Papillary Layer.</p> <p><i>d.</i> Nucleus of Cells.</p> <p><i>e.</i> Papillæ from the Papillary Layer.</p> | <p><i>f.</i> Upper Portion of the Corium.</p> <p><i>g.</i> Its Fibres.</p> <p><i>h.</i> Inter-fibrillar Spaces.</p> <p><i>i.</i> Duct of a Sweat Gland.</p> |
|--|---|

PLATE LVI.

FIG. XI TO XV. MICROSCOPIC STRUCTURE OF HAIR.

FIG. XI. EPIDERMIS.

FIG. XII. CORTICULAR SUBSTANCE OF SHAFT.

FIG. XIII. LONGITUDINAL SECTION.

- | | |
|---|---------------------------------------|
| <p><i>a.</i> Substance of Corticle.</p> | <p><i>b.</i> Medullary Substance.</p> |
|---|---------------------------------------|

FIG. XIV. TRANSVERSE SECTION.

a. Epidermis. | b. Substance of Corticle.

FIG. XV. TRANSVERSE SECTION.

a. Epidermis. | c. Medullary Substance.
b. Corticle.

PLATE LVII.

FIGS. I, II. SPINAL CORD.

The spinal canal opened from behind, and the membranes, vessels, nerves, etc., removed to expose the spinal marrow. It shows the termination of the cord in the *cauda equina*, and the nerves passing through the intervertebral foramina. The regions here shown are the sacral, lumbar, and a portion of the dorsal.

FIGS. III, IV. SPINAL CORD OF A CHILD.

In these figures the whole of the cord is exposed.

From 1 to 8 are the roots (posterior aspect) of the Cervical Nerves.

From 8 to 20, those of the Dorsal Nerves.

From 20 to 25, those of the Lumbar Nerves.

From 25 to 30, the Sacral.

The numbers on the right side of the figures designate the Vertebrae, where they have been divided.

From 1 to 7, the Cervical Vertebrae.

From 1 to 12, the Dorsal Vertebrae.

From 1 to 5, the Lumbar Vertebrae.

From 1 to 5, the Sacral Vertebrae—the Coxcyx not being numbered.

FIGS. V, VI. SIDE VIEW OF SPINAL NERVE TRUNKS.

The numbers designate the Nerve Trunks after the junction of their anterior and posterior roots beyond the Spinal Ganglia.

It indicates that there are on each side, 8 Cervical, 12 Dorsal, 5 Lumbar, 5 Sacral, and 1 Coxeygeal Nerves. In all thirty-one. Their number does not correspond to the number of Vertebrae.

At the first Cervical, and at the Coxeygeal, Impair Ganglia are marked. The Coxeygeal Nerve is also placed in a line with the Spinal Cord.



ENDOSMOLOGY.



ENDOSMOLOGY.

PLATE I.

THE PAROTID GLAND AND FACIAL MUSCLES.

1. Zygoma.	15. Levator Anguli Oris	} Muscles.
2. Condyle of Lower Jaw.	16. Zygomaticus Minor	
3. Parotid Gland.	17. Zygomaticus Major	
4. Steno's Duct.	18. Masseter	
5, 6, 7. Occipito-frontalis	19. Risorius	
8. Attolens Aurem	20. Buccinator	
9. Temporal	21. Depressor Anguli Oris	
10. Orbicularis Palpebrarum	22. Levator Menti	
11. Levator Labii Superioris	23. Platysma Myoides	
Alæque Nasi	24. Sterno-cleido-mastoid	
12. Compressor Narium	25. Splenius Capitis	
13. Levator Labii Superioris	26. Trapezius	
14. Orbicularis Oris		

PLATES II AND III.

LONGITUDINAL SECTION OF THE HEAD AND NECK.

a. Integument.	y. Lower Jaw.
b. Cranial Cavity.	z. Os Hyoides.
c. Spinal Canal.	1. Septum of Nose.
d. Crista Galli.	2. Tongue.
e. Sella Turcica.	3. Frenum Linguae.
f. Frontal Sinus.	4. Genio-glossus Muscle.
g. Sphenoidal Sinus.	5. Lingualis Muscle.
h. Basilar Process of Occipital.	6. Hard Palate.
i. Basilar Suture.	7. Velum Pendulum Palati.
k. Anterior Arch of Atlas.	8. Uvula.
l. Posterior Arch of Atlas.	9. Tonsil.
m. Odontoid Process.	10. Choana Dextra.
n. Bodies of Cervical Vertebrae.	11. Eustachian Tube.
o. Spinous Processes.	12, 14. Pharynx.
p, q, r. Nasal Fossa.	13. Tissues behind the Pharynx.
s, t. Floor of Nasal Fossa.	15. Oesophagus.
u. Nasal Crest.	16. Epiglottis.
v. Alveolus of Incisor.	17. Cellular tissue and fat.
w, x. Incisor Teeth.	18. Thyroid Cartilage.

- | | |
|----------------------------|--|
| 19. Cricoid Cartilage. | 25. Genio-hyoid Muscle. |
| 21. Arytænoid Cartilage. | 26. Digastric Muscle. |
| 22. Ventricle of Morgagni. | 27. Sterno-hyoid and Sterno-thyroid Muscles. |
| 23. Trachea. | 28. Bolus. |
| 24. Thyroid Gland. | |

PLATE IV.

FIG. I. SAME AS FIG. IV, PLATE V.

FIG. II. SECTION OF A LOBULE OF THE LIVER, SHOWING A HEPATIC VEIN IN THE CENTER.

- | | |
|-------------------------|-----------------------|
| 1. Hepatic Vein. | 3. Lobules of Liver. |
| 2. Opening of a branch. | 4. Intralobular Vein. |

FIG. III. HEPATIC VEIN AND LOBULES.

- | | |
|------------------|-------------|
| 1. Hepatic Vein. | 3. Lobules. |
| 2. Branches. | |

FIG. IV. MICROSCOPIC SECTION OF LIVER SUBSTANCE.

- | | |
|------------------------|------------------------|
| 1. Intralobular Veins. | 2. Interlobular Veins. |
|------------------------|------------------------|

FIG. V. LOBULES OF LIVER. MAGNIFIED.

- | | |
|-------------------------|-----------------------------------|
| 1. Intralobular Vein. | 4. Plexus of Biliary Capillaries. |
| 2. Medullary Substance. | 5. Hepatic Bile Ducts. |
| 3. Corticle Substance. | |

PLATE V.

FIG. I. A SECTION OF THE ŒSOPHAGUS, SHOWING ITS COATS.

- | | |
|-----------------------------|-----------------------|
| 1. External Muscular Layer. | 3. Mucous Coat. |
| 2. Internal Muscular Layer. | 4. Œsophageal Glands. |

FIG. II. ŒSOPHAGEAL GLANDS ENLARGED.

- | | |
|--------------|-------------------------|
| 1. Gland. | 3. Orifice of the Duct. |
| 2. Its Duct. | |

FIG. III. SUBSTANCE OF THE SPLEEN. MAGNIFIED.

- | | |
|------------------|---------------------------|
| 1. Splenic Vein. | 2. Malpighian Corpuscles. |
|------------------|---------------------------|

FIG. IV. THE UNDER SURFACE OF THE LIVER, THE GALL BLADDER, STOMACH, SPLEEN, AND DUODENUM.

- | | |
|-------------------------|--------------------------|
| 1. Left Lobe of Liver. | 4. Lobus Spigelii. |
| 2. Right Lobe of Liver. | 5. Longitudinal Fissure. |
| 3. Lobus Quadratus. | 6, 7. Round Ligament. |

- | | |
|---|--------------------------------|
| 8. Portal Vein. | 18. Suspensory Ligament of the |
| 9. Hepatic Ducts. | 19. Œsophagus. [Liver. |
| 10. Fundus of Gall Bladder. | 20. Fundus of Stomach. |
| 11. Cervix of Gall Bladder. | 21. Lesser Curvature. |
| 12. Cystic Duct. | 22. Greater Curvature. |
| 13. Ductus Communis Choledochus. | 23. Pylorus. |
| 14. Pancreas. | 24. Duodenum. |
| 15. Pancreatic Duct. | 25. Jejunum. |
| 16. Common opening of 13 and 15. | 26. Mesentery. |
| 17. Opening of Branch of Pancreatic Duct. | 27. Omentum. |
| | 28. Spleen. |

FIG. V. OUTLINE OF FIG. VII, PLATE IV. THE STOMACH.

- | | |
|-----------------------|---------------|
| 1. Fundus of Stomach. | 6. Mesentery. |
| 2. Greater Curvature. | 7. Liver. |
| 3. Pylorus. | 8. Pancreas. |
| 4. Duodenum. | 9. Spleen. |
| 5. Jejunum. | 10. Kidney. |

FIG. VI. OUTLINE OF FIG. VIII, PLATE IV. SECTION OF THE STOMACH.

- | | |
|---------------------------|------------------|
| 1. Fundus of Stomach. | 7. Liver. |
| 2. Opening of Œsophagus. | 8. Gall Bladder. |
| 3. Pyloric Valve. | 9. Pancreas. |
| 4. Duodenum. | 10. Spleen. |
| 5. Opening of Bile Ducts. | 11. Kidney. |
| 6. Mesentery. | |

FIG. VII. OUTLINES OF FIG. VI, PLATE IV. THE ABDOMINAL CAVITY LAID OPEN.

- | | |
|---|-------------------------|
| 1. Anterior wall of Abdomen, reflected. | 10. Mesentery. |
| 2. Liver. | 11. Right Kidney. |
| 3. Gall Bladder. | 12. Ureter. |
| 4. Cystic Duct. | 13. Urinary Bladder. |
| 5. Stomach. | 14. Abdominal Aorta. |
| 6. Pylorus. | 15. Iliac Artery. |
| 7. Duodenum. | 16. Spermatic Artery. |
| 8. Jejunum. | 17. Inferior Vena Cava. |
| 9. Spleen. | 18. Psoas Muscle. |

PLATE VI.

FIG. I. THE STOMACH AND PANCREAS.

- | | |
|------------------------------|-------------------------------|
| 1. Œsophageal Opening. | 4. Location of Mucous Glands. |
| 2. Fundus of Stomach. | 5. Pyloric Valve. |
| 3. Folds of Mucous Membrane. | 6. Duodenum. |

- | | |
|-------------------------|----------------------------------|
| 7. Brunner's Glands. | 14. Ductus Communis Choledochus. |
| 8. Valvulæ Conniventes. | 15. Pancreas. |
| 9. Gall Bladder. | 16. Head. |
| 10. Fundus. | 17. Body. |
| 11. Cervix. | 18. Pancreatic Duct. |
| 12. Cystic Duct. | 19. Lobules of the Pancreas. |
| 13. Hepatic Duct. | |

FIG. II. ILEUM AND CÆCUM.

- | | |
|----------------------------------|---|
| 1. Ileum. | 5. Constricted portion marking the
beginning of the colon. |
| 2, 3. Cæcum. | 6. Vermiform Process. |
| 4. Longitudinal Muscular Fibres. | |

FIG. III. CÆCUM OPENED.

- | | |
|---------------------------|----------------------------------|
| 1. Ileum. | 5. Upper } Valves. |
| 2. Processus Vermiformis. | 6. Lower } Valves. |
| 3. Cæcum. | 7. Orifice of Vermiform Process. |
| 4. Ileo-cæcal Valve. | |

FIG. IV.

- | | |
|----------------------|-----------------|
| 1. Serous Coat. | 4. Mucous Coat. |
| 2, 3. Muscular Coat. | |

FIG. V.

1. Valvulæ Conniventes.

FIG. VI. MUCOUS MEMBRANE OF GALL BLADDER.

- | | |
|------------------------------|---|
| 1. Folds of Mucous Membrane. | 3. Smaller Folds of Mucous Mem-
brane. |
| 2. Fossæ Lodging. | |

FIG. VII. A PORTION OF THE MUCOUS MEMBRANE OF THE
VERMIFORM PROCESS.

FIG. VIII. SECTION OF MUCOUS MEMBRANE FROM THE GALL BLADDER.

- | | |
|------------------|-----------------------|
| 1. Mucous Folds. | 2. Fossæ formed by 1. |
|------------------|-----------------------|

FIG. IX. VILUS WITH INJECTED BLOOD-VESSELS.

- | | |
|--------------|-----------------|
| 1. Veins. | 3. Capillaries. |
| 2. Arteries. | |

FIG. X. PEYER'S GLAND.

PLATE VII.

FIG. I. THE LIVER, GREATER OMENTUM AND INTESTINES IN SITU.

- | | |
|---------------------------------|-----------------------------------|
| 1. Pericardium. | 3. Superior } Lobes of Left Lung. |
| 2. Inferior Lobe of Right Lung. | 4. Inferior } Lobes of Left Lung. |

- | | |
|--|------------------------------|
| 5. Diaphragm. | 10. Gall Bladder. |
| 6. Superior Convex Surface of the Liver. | 11. Incisura Interlobularis. |
| 7. Right Lobe. | 12. Round Ligament. |
| 8. Lobus Quadratus. | 13. Suspensory Ligament. |
| 9. Left Lobe. | 14. Greater Omentum. |
| | 15. Intestines. |

FIG. II. THE LESSER OMENTUM.

- | | |
|-------------------------------------|--|
| 1. Left Lobe of the Liver. | 10. Lesser Curvature. |
| 2. Right Lobe. | 11. Gastro-hepatic Omentum. |
| 3. Lobus Quadratus. | 12. Superior Transverse portion of Duodenum. |
| 4. Incisura Interlobularis. | 13. Descending portion of the Duodenum. |
| 5. Anterior Surface of the Stomach. | 14. Inferior Transverse portion of the Duodenum. |
| 6. Cardiac End of the Stomach. | 15. Spleen. |
| 7. Œsophageal Opening. | |
| 8. Pyloric Extremity. | |
| 9. Greater Curvature. | |

PLATE VIII.

FIG. I. THE HEART DRAWN TO THE LEFT, EXPOSING THE PULMONARY VESSELS AND THE BRONCHI.

- | | |
|---------------------------|----------------------------|
| 1. Right Coronary Artery. | 6. Right Pulmonary Artery. |
| 2. Left Coronary Artery. | 7. Right Bronchus. |
| 3. Right Auricle. | 8. Left Bronchus. |
| 4. Superior Vena Cava. | 9. Œsophagus. |
| 5. Left Pulmonary Artery. | |

FIG. II. THE ORGANS OF THE THORAX IN SITU.

- | | |
|------------------------------------|--|
| 1. Thymus Gland. | 8. Diaphragm. |
| 2. Pericardium. | 9. Ribs. |
| 3. Superior } Lobes of Right Lung. | 10. Pericardium Adherent to Central Tendon of the Diaphragm. |
| 4. Middle } Lobes of Right Lung. | 11. Right Innominate Vein. |
| 5. Inferior } Lobes of Right Lung. | 12. Left Innominate Vein. |
| 6. Superior } Lobes of Left Lung. | 13. Superior Vena Cava. |
| 7. Inferior } Lobes of Left Lung. | |

PLATE IX.

FIG. I. THE THORAX OPENED BY LAYING BACK THE STERNUM.

- | | |
|--------------------------------|-----------------------------|
| 1. Inner Surface of Sternum. | 6. Pericardium. |
| 2. Manubrium Sterni. | 7. Thymus Gland. |
| 3. Triangularis Sterni Muscle. | 8. Superior Vena Cava |
| 4. Pleuræ. | 9. Right Innominate Vein. |
| 5. Anterior Mediastinum. | 10. Left Innominate Artery. |

- | | |
|---------------------------------|----------------|
| 11. Innominate Artery. | 14. Trachea. |
| 12. Left Common Carotid Artery. | 15. Œsophagus. |
| 13. Thyroid Gland. | 16. Lungs. |

FIG. II. THE HEART, GREAT BLOOD VESSES, BRONCHI AND ŒSOPHAGUS.

- | | |
|-----------------------------|---------------------------------------|
| 1. Convex Surface of Heart. | 13. Left Branch of Pulmonary Artery. |
| 2. Right Margin. | 14. Right Branch of Pulmonary Artery. |
| 3. Left Margin. | 15. Trachea. |
| 4. Right Auricle. | 16. Right Bronchus. |
| 5. Left Auricle. | 17. Left Bronchus. |
| 6. Left Coronary Artery. | 18. Œsophagus. |
| 7. Lungs. | 19. Left Pulmonary Veins. |
| 8. Ascending Aorta. | 20. Innominate Artery. |
| 9. Arch of Aorta. | 21. Left Common Carotid Artery. |
| 10. Descending Aorta. | 22. Left Subclavian Artery. |
| 11. Ductus Arteriosus. | |
| 12. Pulmonary Artery Trunk. | |

FIG. III. HEART AND LUNGS.

- | | |
|-----------------------------------|-----------------------|
| 1. Heart. | 8. Left Bronchus. |
| 2. Left Auricle. | 9. Ductus Arteriosus. |
| 3. Auricular Appendage. | 10. Œsophagus. |
| 4. Vena Magna Cordis. | 11. Descending Aorta. |
| 5. Left Pulmonary Veins. | 12. Transverse Aorta. |
| 6. Left Lung, drawn to the right. | 13. Thoracic Aorta. |
| 7. Left Pulmonary Artery. | |

PLATE X.

THE VISCERA OF THE THORAX AND ABDOMEN.

- | | |
|---|-------------------------------|
| 1. Pericardium. | 14. Left Margin of the Heart. |
| 2. Vena Cava Superior. | 15. Right Auricle. |
| 3. Ascending Aorta. | 16. Left Auricle. |
| 4. Pulmonary Artery. | 17. Small Intestines. |
| 5. Pericardium Reflected up to the Vessels. | 18. Ileum. |
| 6. Pleuræ. | 19. Cæcum. |
| 7. Lungs. | 20. Appendix Vermiformis. |
| 8. Diaphragm. | 21. Mesentery. |
| 9. Base of the Heart. | 22. Ascending Colon. |
| 10. Apex of the Heart. | 23. Transverse Colon. |
| 11. Superior Surface of the Heart. | 24. Descending Colon. |
| 12. Inferior Surface of the Heart. | 25. Sigmoid Flexure. |
| 13. Right Margin of the Heart. | 26. Colic Ligament. |
| | 27. Appendices Epiploicæ. |

PLATE XI.

FIG. I.

- | | |
|---|----------------------------------|
| 1. Greater Omentum. | 8. Appendix Vermiformis. |
| 2. Transverse Colon. | 9. Ascending Colon. |
| 3. Inferior Lamina of Transverse Mesocolon. | 10. Descending Colon. |
| 4. Duodenum, covered by Peritoneum. | 11. Sigmoid Flexure. |
| 5. Appendices Epiploicæ. | 12. Rectum. |
| 6. Ileum. | 13. Plicæ Semilunares Douglasii. |
| 7. Cæcum. | 14. Bladder. |
| | 15. Colic Ligaments. |

FIG. II. FORAMEN OF WINSLOW.

- | | |
|--|--|
| 1. Liver. | 7. Foramen of Winslow. |
| 2. Gall Bladder. | 8. Superior Portion of Transverse Mesocolon. |
| 3. Spleen. | 9. Great Omentum. |
| 4. Gastro-splenic Omentum. | 10. Transverse Colon. |
| 5. Posterior Surface of the Stomach. | |
| 6. Anterior Portion of the Lesser Omentum. | |

FIG. III. CONCAVE, OR INFERIOR SURFACE OF THE LIVER.

- | | |
|---------------------------------|----------------------------------|
| 1. Right Lobe. | 12. Left Branch of Portal Vein. |
| 2. Left Lobe. | 13. Ductus Venosus. |
| 3. Lobus Quadratus. | 14. Transverse Fissure. |
| 4. Lobus Spigelii. | 15. Portal Vein. |
| 5. Lobus Candatus. | 16. Right Branch of Portal Vein. |
| 6. Eminentia Papillaris. | 17. Inferior Vena Cava. |
| 7. Obtuse Margin. | 18. Hepatic Veins. |
| 8. Acute Margin. | 19. Gall Bladder. |
| 9. Incisura Interlobularis. | 20. Cystic Duct. |
| 10. Longitudinal Fissure. | 21. Hepatic Duct. |
| 11. Obliterated Umbilical Vein. | 22. Ductus Communis Choledochus. |

PLATE XII.

THE PERITONEUM AND ITS PROCESSES.

- | | |
|-----------------------------------|--|
| A. External Lamina of Peritoneum. | e. Vas Deferens. |
| a. Tunica Vaginalis Scroti. | c. Anterior Wall of Urinary Bladder covered by Peritoneum. |
| B. Internal Lamina of Peritoneum. | D. Kidney. |
| b. Its Process to Testicle. | f. Ureter. |
| c. Turnica Vaginalis Testis. | E. Region in which Inguinal Hernia occurs. |
| d. Spermatic Vessels. | |

PLATE XIII.

LARGE VESSELS AND SPERMATIC CORDS FOUND UNDER
THE PERITONEUM.

- | | |
|---|------------------------------------|
| <i>A.</i> External Lamina of Peritoneum. | <i>d.</i> Spermatic Vein. |
| <i>B.</i> Internal Lamina of Peritoneum. | <i>e.</i> Spermatic Artery. |
| <i>C.</i> Kidney. | <i>f.</i> Ureter. |
| <i>D.</i> Vena Cava. | <i>g.</i> Tunica Vaginalis Testis. |
| <i>E.</i> Aorta. | <i>h.</i> Processus Clausus. |
| <i>a.</i> Tunica Vaginalis Scroti. | <i>i.</i> Renal Artery. |
| <i>b.</i> Epigastric Portion of Peritoneum. | <i>k.</i> Renal Vein. |
| <i>c.</i> Vas Deferens. | |

PLATE XIV.

ABDOMINAL VISCERA COVERED BY PERITONEUM. ALSO SHOWING
THE DESCENT OF THE TESTICLE INTO THE SCROTUM.

- | | |
|---|---|
| <i>A.</i> External Lamina of Peritoneum. | <i>m.</i> Process of Peritoneum around Testicle. |
| <i>B.</i> Internal Lamina of Peritoneum. | <i>n.</i> Process forming Tunica Albuginea. |
| <i>C.</i> Urinary Bladder. | <i>o.</i> Vas Deferens. [ginea. |
| <i>a.</i> Tunica Vaginalis Scroti. | <i>p.</i> Spermatic Vessels. |
| <i>b.</i> Processus Clausus. | <i>q.</i> Round Ligament of Liver. |
| <i>c.</i> Tunica Vaginalis Testis. | <i>r.</i> Umbilical Arteries. |
| <i>d.</i> Vas Deferens. | <i>s.</i> Ureters. |
| <i>e.</i> Spermatic Vessels. | <i>t.</i> Portion of Peritoneum Reflected from Bladder. |
| <i>f.</i> Aperture into the Inner Lamina. | <i>u.</i> Urachus. |
| <i>g.</i> Intestines. | <i>v.</i> Mesorectum. |
| <i>h.</i> Liver. | <i>x.</i> Rectum. |
| <i>i.</i> Appendix Vermiformis. | <i>y.</i> Suspensory Ligament of Liver. |
| <i>k.</i> Tunica Albuginea. | |
| <i>l.</i> Mesentery. | |

PLATE XV.

- | | |
|---|---|
| 1. Stomach. | 7. Superior Lamina of the Transverse Mesocolon. |
| 2. Superior Transverse Portion of Duodenum. | 8. Appendix Vermiformis. |
| 3. Descending Portion of Duodenum. | 9. Mesentery. |
| 4. Inferior Transverse Portion of Duodenum. | 10. Cæcum. |
| 5. Pancreas | 11. Ascending |
| 6. Inferior Lamina of the Transverse Mesocolon reflected, exposing the Duodenum and Pancreas. | 12. Transverse } Colon. |
| | 13. Descending } |
| | 14. Sigmoid Flexure. |
| | 15. Rectum. |
| | 16. Bladder. |
| | 17. Colic Ligament. |

PLATE XVI.

FEMALE GENITAL ORGANS.

FIG. I.

- | | | |
|-------------------------------|--------------------------------|---------|
| 1. Rectum. | 12. Vulva. | } |
| 2. Cul De Sac of Douglas. | 12. Labia Majora. | |
| 3. Ovaries. | 13. Labia Minora. | |
| 4. Ovarian Ligaments. | 14. Prepuce of Clitoris. | |
| 5. Fimbriated Extremity of 6. | 15. Glans Clitoris. | |
| 6. Fallopian Tube. | 16. Meatus Urinarius. | |
| 7. Round Ligament of Uterus. | 17. Ostium Vaginæ. | |
| 8. Uterus. | 13. Hymen. | [Gland. |
| 9. Urinary Bladder. | 19. Openings of Duct of Mucous | |
| 10. Urachus. | 20. Fourchette. | |
| 11. Ureters. | 21. Perinæum. | |
| | 22. Anus. | |

FIG. II. INTERNAL GENITALIA, VAGINA LAID OPEN.

- | | |
|---------------------------------|--------------------------|
| 1. Ovary. | 11. Vagina. |
| 2. Ovarian Ligament. | 12. Rugæ. |
| 3. Lateral Ligaments of Uterus. | 13. Mucous Follicles. |
| 4. Fimbriated Extremity of 5. | 14. Meatus Urinarius. |
| 5. Fallopian Tube. | 15. Clitoris. |
| 6. Fundus Uteri. | 16. Prepuce of Clitoris. |
| 7. Cervix Uteri. | 17. Labia Minora. |
| 8. Superior Lip of Uterus. | 18. Labia Majora. |
| 9. Os Tincæ. | 19. Section of 18. |
| 10. Inferior Lip. | |

FIG. III.

- | | |
|------------|----------------------|
| 1. Vulva. | 4. Sphincter Vaginæ. |
| 2. Fat. | 5. Mucous Glands. |
| 3. Vagina. | 6. Their Ducts. |

FIG. IV.

- | | |
|-------------------------------------|----------------------|
| 1. Pubes. | 6. Sphincter Vaginæ. |
| 2. Mons Veneris. | 7. Nymphæ. |
| 3. Suspensory Ligament of Clitoris. | 8. Labia Magna. |
| 4. Clitoris. | 9. Perinæum. |
| 5. Corpora Cavernosa Clitoridis. | 10. Anus. |

FIG. V. SECTION OF UTERUS SHOWING ITS CAVITY.

- | | |
|---------------------------------|--------------------------------|
| 1. Body of Uterus. | 5. Arbor Vitæ. |
| 2. Cervix Uteri. | 6. Section of Muscular Tissue. |
| 3. Openings of Fallopian Tubes. | 7. Cavity of Uterus. |
| 4. Inferior Lip of Uterus. | |

FIG. VI. SECTION OF AN OVARY.

- | | |
|--------------------------|-------------------------|
| 1, 2. Graafian Vesicles. | 4. Stroma. |
| 3. Corpus Luteum. | 5. Peritoneal Covering. |

FIG. VII. AN OVUM OF A RABBIT, HIGHLY MAGNIFIED.

- | | |
|--------------|----------------------|
| 1. Granules. | 4. Germinal Vesicle. |
| 3. Chorion. | 5. Germinal Spot. |
| 3. Vitellus. | |

PLATE XVII.

MALE GENITAL ORGANS.

FIG. I. MALE GENITAL ORGANS, NATURAL POSITION. THE RIGHT HALF OF THE PELVIS IS REMOVED.

- | | |
|------------------------------------|-----------------------------------|
| 1. Last Lumbar Vertebrae. | 14. Testis. |
| 2. Sacrum. | 15. Vas Deferens. |
| 3. Auricular Surface | 15. Vesiculæ Seminales. |
| 4. Coccyx. | 17. Prostate Gland. |
| 5. Pubes. | 18. Cowper's Glands. |
| 6. Section of Symphysis Pubis. | 19. Bulb of Urethra. |
| 7. Right Iliac Artery. | 20. Corpus Cavernosum Penis. |
| 8. Obliterated Umbilical Arteries. | 21. Suspensory Ligament of Penis. |
| 9. Rectum. | 22. Prepuce. |
| 10. Urinary Bladder. | 23. Frænum of Prepuce. |
| 11. Urachus. | 24. Corona Glandis. |
| 12. Ureter. | 25. Glans Penis. |
| 13. Membranous Portion of Urethra. | 26. Meatus Urinarius. |

FIG. II.

- | | |
|-----------------------------------|--------------------------|
| 1, 2. Bladder. | 8. Bulb of Urethra. |
| 3. Verumontanum. | 9-11. Corpus Cavernosum. |
| 4. Openings of Ejaculatory Ducts. | 12. Urethra. |
| 5. Prostatic Ducts. | 13. Glans Penis. |
| 6. Prostate Gland. | 14. Section. |
| 7. Cowper's Glands. | 15. Fossa Navicularis. |

FIG. III.

- | | |
|------------------------|--------------------------------|
| 1. Bladder. | 7. Membranous Part of Urethra. |
| 2. Ureters. | 8. Cowper's Glands. |
| 3. Vasa Deferentia. | 9. Duct. |
| 4. Vesiculæ Seminales. | 10. Bulb of Urethra. |
| 5. Vasa Ejaculatoria. | 11. Urethra. |
| 6. Prostate. | 12. Corpus Cavernosum. |

FIG. IV.

- | | |
|---------------------|------------------------|
| 1. Testicle. | 5. Head of Epididymus. |
| 2. Lobules. | 6. Tail of Epididymus. |
| 3. Rete Testis. | 7. Vas Aberrans. |
| 4. Vasa Efferentia. | 8. Vas Deferens. |

FIG. V. TESTICLE.

- | | |
|-----------------|------------------|
| 1. Testis. | 4. Epididymus. |
| 2. Lobes. | 5. Vas Aberrans. |
| 3. Rete Testis. | 6. Vas Deferens. |

FIG. VI. SEMINIFEROUS TUBULE.

- | | |
|------------------|-----------------------|
| 1. Vas Deferens. | 3. Branchlets. |
| 2. Tubule. | 4. Vas Ejaculatorium. |

PLATE XVIII.

FIG. I. UTERUS. ANTERIOR ASPECT.

- | | |
|--|----------------------------|
| 1. Anterior Wall of the Urinary Bladder covered by Peritoneum. | 4. Round Ligaments. |
| 2. Anterior Surface of the Uterus. | 5. Ovaries. |
| 3. Lateral Ligaments. | 6. Fallopian Tubes. |
| | 7. Fimbriated Extremities. |
| | 8. Rectum. |

FIG. II. UTERUS. POSTERIOR ASPECT.

- | | |
|-------------------------------------|----------------------------|
| 1. Posterior Surface of the Uterus. | 7. Fimbriated Extremities. |
| 2. Fundus Uteri. | 8. Ovaries. |
| 3. Body. | 9. Broad Ligaments. |
| 4. Cervix. | 10. Cul De Sac of Douglas. |
| 5. Lateral Ligaments. | 11. Rectum. |
| 6. Fallopian Tubes. | |

PLATE XIX.

FIG. I. OMENTUM OF AN INFANT.

- | | |
|-------------------|---------------|
| 1. Liver. | 3. Mesentery. |
| 2. Great Omentum. | |

FIG. II. SAME AS FIG. I

- | | |
|----------------------------------|------------------------|
| 1. Concave Surface of the Liver. | 7. Greater Curvature. |
| 2. Gall Bladder. | 8. Lesser Curvature. |
| 3. Gastro-hepatic Omentum. | 9. Œsophageal Opening. |
| 4. Great Omentum. | 10. Pyloric Extremity. |
| 5. Anterior Surface of Stomach. | 11. Pancreas. |
| 6. Cardia. | 12. Intestines. |

FIG. III. PANCREAS.

- | | |
|---|---------------------------------|
| 1. Pancreas. | 7. Cystic Duct. |
| 2. Pancreatic Duct. | 8. Hepatic Duct. |
| 3. Branches. | 9. Ductus Communis Choledochus. |
| 4. Communication of Pancreatic
with Common Bile Ducts. | 10. Stomach. |
| 5. Liver. | 11. Pancreas. |
| 6. Gall Bladder. | 12. Transverse Colon. |
| | 13. Transverse Mesocolon. |

PLATE XX.

FIG. I.

- | | |
|------------------------|-----------------------|
| 1. Levator Ani Muscle. | 5. Corpora Cavernosa. |
| 2. Compressor Urethræ. | 6. Urethra. |
| 4. Corpora Cavernosa. | 7. Corpus Spongiosum. |

FIG. II. BLADDER, MALE.

- | | |
|--------------------|-------------------------|
| 1. Urachus. | 5. Rugæ. |
| 2. Prostate Gland. | 6. Orifices of Ureters. |
| 3. Fundus. | 7. Trigonom Vesicæ. |
| 4. Neck. | |

FIG. III. BLADDER, FEMALE.

- | | |
|-------------|---------------------------|
| 1. Urachus. | 3, 4, 5. Muscular Fibres. |
| 2. Ureters. | |

FIG. IV. KIDNEY.

- | | |
|------------------|-------------------------|
| 1. Kidney. | 5. Renal Vein. |
| 2. Hilus. | 6. Supra-renal Capsule. |
| 3. Ureter. | 7. Transverse Groove. |
| 4. Renal Artery. | 8. Lobules. |

FIG. V.

- | | |
|-------------|------------|
| 1. Calyces. | 3. Pelvis. |
| 2. Papillæ. | 4. Ureter. |

FIG. VI.

- | | |
|-------------------------|-------------------|
| 1. Corticle Substance. | 3. Papillæ. |
| 2. Medullary Substance. | 4. Renal Vessels. |

FIG. VII.

- | | |
|-------------------|------------|
| 1. Calyces Minor. | 3. Pelvis. |
| 2. Calyx Major. | 4. Ureter. |

FIG. VIII.

- | | |
|-----------------------|------------------|
| 1. Supra-renal Gland. | 3. Convolutions. |
| 2. Kidney. | 4. Ureter. |

FIG. IX. LONGITUDINAL SECTION OF THE KIDNEY OF AN ADULT.

- | | |
|------------------------|-------------|
| 1. Cortical Substance. | 4. Papillæ. |
| 2. Columnæ. | 5. Calyx. |
| 3. Pyramids. | |

FIG. X.

- | | |
|------------------------|--------------------|
| 1. Cortical Substance. | 3. Renal Arteries. |
| 2. Malpighian Bodies. | 4. Veins. |

FIG. XI.

- | | |
|---|---|
| 1. Blind Extremities of Tubuli Uriniferi. | 2. Straight Portion in which they Coalesce. |
| | 3. Large Tubuli formed by 2. [alesce. |

FIG. XII. GLANDS FROM THE STOMACH.

- | | |
|--------------------|--------------------|
| 1. Lobular Glands. | 2, 3. Their Ducts. |
|--------------------|--------------------|

FIG. XIII. KIDNEY.

- | | |
|-------------------------|-------------|
| 1. Cortical Substance. | 4. Papillæ. |
| 2. Columnæ. | 5. Calyx. |
| 3. Medullary Substance. | 6. Pelvis. |

FIG. XIV. SPERMATOOA.

FIG. XV. MAMMARY GLAND.

- | | |
|-----------------------------------|------------|
| 1. Lobules. | 4. Sinus. |
| 2. Radicles of Lactiferous Ducts. | 5. Nipple. |
| 3. Lactiferous Ducts. | |

PLATE XXI.

FIG. I.

- | | |
|-----------------------------------|-------------------------------------|
| A. External Lamina of Peritoneum. | b. Process of B inside of Aperture. |
| B. Sac of Internal Lamina. | c. Tunica Vaginalis Propria Testis. |
| C. Bladder. | d. Tunica Albuginea. |
| a. Tunica Vaginalis Communis. | e. Spermatic Vessels. |

FIG. II.

- | | |
|---------------------------------|-------------------------|
| 1. Corpus Cavernosum. | 3. Septum Pectiniforme. |
| 2. Artery of Corpus Cavernosum. | |

FIG. III.

- | | |
|--|--|
| <p><i>a.</i> Mesentery.</p> <p><i>b.</i> Vasa Spermatica. Between the Layers of Mesentery.</p> <p><i>c.</i> Vas Deferens. Between the Layers of Mesentery.</p> <p><i>d.</i> Portion of <i>a</i> which descends through Inguinal Opening.</p> | <p><i>e.</i> Internal Inguinal Ring.</p> <p><i>f.</i> Portion of Peritoneum containing a Testicle in Descent.</p> <p><i>g.</i> Apex of the Testis.</p> <p><i>h.</i> Bladder.</p> <p><i>i.</i> Umbilical Arteries.</p> <p><i>k.</i> Intestines.</p> |
|--|--|

FIG. IV.

- | | |
|--|--|
| <p><i>a.</i> External Lamina of Peritoneum.</p> <p><i>b.</i> Tunica Vaginalis Communis.</p> <p><i>c.</i> Lamina Interna.</p> <p><i>d.</i> Its Process.</p> | <p><i>e.</i> Spermatic Vessels.</p> <p><i>f.</i> Intestines.</p> <p><i>g.</i> Liver.</p> |
|--|--|

FIG. V.

- | | |
|---|-------------------|
| <p>1. Tunica Vaginalis.</p> <p>2. Tunica Albuginea.</p> | <p>3. Testis.</p> |
|---|-------------------|

FIG. VI.

- | | |
|---|---|
| <p>1. Tunica Vaginalis.</p> <p>2. Tunica Albuginea.</p> | <p>3. Epididymis.</p> <p>4. Spermatic Cord.</p> |
|---|---|

FIG. VII. THE DESCENT OF THE TESTICLES.

- | | |
|---|---|
| <p><i>B.</i> Reflected Walls of Abdomen.</p> <p><i>E.</i> Kidneys.</p> <p><i>F.</i> Aorta.</p> <p><i>G.</i> Vena Cava Inferior.</p> | <p><i>K.</i> Inguinal Opening.</p> <p><i>M.</i> Bladder.</p> <p><i>N.</i> Testis.</p> |
|---|---|

PLATE XXII.

FIG. I.

- | | |
|--|---------------------------------|
| <p>1. Pleuræ. [Sternum.</p> <p>2. Portion of 1. Removed from the</p> | <p>3. Anterior Mediastinum.</p> |
|--|---------------------------------|

FIG. II.

- | | |
|---|---------------------------------------|
| <p>1. Base of the Heart.</p> <p>2. Apex of the Heart.</p> | <p>3. Diaphragm.</p> <p>4. Lungs.</p> |
|---|---------------------------------------|

PLATE XXIII.

FIG. I.

- | | |
|---|--|
| <p>1. Body of Hyoid Bone.</p> <p>2. Cornu Major.</p> <p>3. Cornu Minor.</p> | <p>4. Thyro-hyoid, Lateral Ligament.</p> <p>5. Middle Thyro-hyoid Ligament.</p> <p>6. Thyroid Cartilage.</p> |
|---|--|

- | | |
|---|--------------------------|
| 7. Incisura Media. | 19. Superior Vena Cava. |
| 8. Greater Cornua of Thyroid Cartilage. | 20. Innominate Artery. |
| 9. Lesser Cornua. | 21. Common Carotid. |
| 10. Thyroid Gland. | 22. Subclavian. |
| 11. Trachea. | 23. Pneumogastric Nerve. |
| 12. Œsophagus. | 24. Arch of Aorta. |
| 13. Scalenus Anticus Muscle. | 25. Pericardium. |
| 14. Phrenic Nerve. | 26. Apex of 25. |
| 15. Internal Jugular Vein. | 27. Base of 25. |
| 16. Subclavian Vein. | 28. Diaphragm. |
| 17. Left Innominate Vein. | 29. } Pleuræ. |
| 18. Right Innominate Vein. | 30. } |
| | 31. Lungs. |

FIG. II.

- | | |
|--------------------------|-------------|
| 1. Anterior Mediastinum. | 4. Sternum. |
| 2. Thymus Gland. | 5. Pleuræ. |
| 3. Pericardium. | |

FIG. III.

- | | |
|------------------------|-----------------------|
| 1. Pleuræ. | 6. Thoracic Aorta. |
| 2. Sternum. | 7. Pulmonary Artery. |
| 3. Vena Cava Superior. | 8. Ductus Arteriosus. |
| 4. Pericardium. | 9. Arch of Aorta. |
| 5. Œsophagus. | 10. Bronchi. |

FIG. IV.

- | | |
|----------------------------|------------------------|
| 1. Eustachian Valve. | 5. Vena Cava Inferior. |
| 2. Valve of Foramen Ovale. | 6. Vena Cava Superior. |
| 3. Foramen Ovale. | 7. Ostium Venosum. |
| 4. Septum Aricularum. | 8. Ascending Aorta. |

FIG. V.

- | | |
|-------------------------------|-------------------------|
| 1. Left Auricle. | 10. Semi-lunar Valves. |
| 2. Valve of Foramen Ovale. | 11. Aorta. |
| *. Foramen Ovale. | 12. Abdominal Aorta. |
| 3. Mouths of Pulmonary Veins. | 13. Pulmonary Artery. |
| 4. Left Pulmonary Valve. | 14. Left Branch of 13. |
| 5. Inferior Vena Cava. | 15. Ductus Arteriosus. |
| 6. Ostium Venosum. | 16. Right branch of 13. |
| 7. Left Ventricle. | 17. Trachea. |
| 8. Mitral Valve. | 18. Vena Cava Superior. |
| 9. Aortic Opening. | 19. Diaphragm. |

FIG. VI. FETAL CIRCULATION.

- | | |
|---------------------|--------------------|
| 1. Umbilical Vein. | 3. Ductus Venosus. |
| 2. Left Vena Portæ. | 4. Kidneys. |

- | | |
|---------------------------|-----------------------------------|
| 5. Vena Cava Inferior. | 12. Foramen of Vena Magna Cordis. |
| 6. Renal Veins. | 13. Valvula Thebesii. |
| 7. Eustachian Valve. | 14. Ostium Venosum. |
| 8. Foramen Ovale. | 15. Flat Surface of the Heart. |
| 9. Its Superior Margin. | 16. Acute Margin. |
| 10. } Vena Cava Superior. | 17. Thymus Gland. |
| 11. } | 18. Umbilicus. |

PLATE XXIV.

FIG. I. ANTERIOR ASPECT OF THE TONGUE.

- | | |
|---|--------------------------------|
| 1. Papillæ of the Tongue. | 7. Mucous Membrane of the Con- |
| 2. Hard Palate. | chæ. |
| 3. Septum of the Nose. | 7. Sphenoidal Sinus. |
| 4. Turbinated Bones. | 8. Septum. |
| 5. Mucous Membrane covering the Septum. | 9. Antrum of Highmore. |

FIG. II. POSTERIOR ASPECT.

- | | |
|---------------------------------|-----------------------------------|
| 1, 2. Papillæ. | 9. Orifice of Eustachian Tube. |
| 3. Glosso-epiglottic Ligament. | 10. Septum Narium. |
| 4. Epiglottis. | 11. Turbinated Bones. |
| 5. Arytæno-epiglottic Ligament. | 12. Velum Palati. |
| 6. Arytenoid Cartilage. | 13. Levator Palati } Muscles. |
| 7. Cricoid Cartilage. | 14. Tensor Palati } |
| 8. Fauces. | 15. Hamular Process of Pterygoid. |

FIG. III. LARYNX.

- | | |
|----------------------------|-----------------------------|
| 1. Thyroid Cartilage. | 5, 6. Cricoid Cartilage. |
| 2. Arytenoid Cartilage. | 7. Crico-tracheal Ligament. |
| 3. Superior } Vocal Cords. | 8. Cornicula Laryngis. |
| 4. Inferior } | 9. Cuneiform Cartilages. |

FIG. IV. FRÆNUM LINGUÆ.

- | | |
|---------------------------------|------------|
| 1. Frænum. | 3. Tongue. |
| 2. Openings of Wharton's Ducts. | |

FIG. V. LARYNX.

- | | |
|-------------------------------|--------------------------|
| 1. Thyro-epiglottic Ligament. | 4. Arytenoid Cartilages. |
| 2. False Vocal Cords. | 5. Cricoid Cartilage. |
| 3. True Vocal Cords. | 6. Conoid Ligament. |

FIGS. VI. AND VII. LARYNX.

- | | | |
|-----------------------------------|----------|----------------|
| 1. Trachea. | [tilage. | 6. Vocal Cord. |
| 3. Superior Cornu of Thyroid Car- | | 7. Ventricle. |
| 4. Cricoid Cartilage. | | 8. Epiglottis. |

FIGS. VIII. AND IX. LARYNX.

- | | |
|------------------------------|---------------------------|
| 2. Internal Surface. | 16. Epiglottis. |
| 3. Anterior Superior Margin. | 18. Arytænoid Cartilages. |
| 5. Superior Cornu. | 24. Rima Glottidis. |
| 6. Posterior Margin. | 25. Vocal Cords. |

FIGS. X AND XI. THYROID CARTILAGE.

FIGS. XII AND XIII. THYROID CARTILAGE.

- | | |
|----------------------|---------------------|
| 1. Anterior Surface. | 5. Superior Cornu. |
| 2. Internal Surface. | 6. Inferior Margin. |
| 3. Superior Border. | 8. Inferior Cornu. |

FIG. XIV. STRUCTURE OF THE LABIAL AND LINGUAL GLANDS.

PLATE XXV.

FIG. I. LARYNX AND TRACHEA.

- | | |
|----------------------------------|-------------------------------------|
| 1. Os Hyoides. | 11. Lateral Thyro-hyoid Ligament. |
| 2. Body. | 12. Cornicula Laryngis. |
| 3. Greater Cornua. | 13. Cricoid Cartilage. |
| 4. Lesser Cornua. | 14. Arcus. |
| 5. Thyroid Cartilage. | 15. Lateral Crico-thyroid Ligament. |
| 6. Incisura. | 16. Conoid Ligament. |
| 7. Oblique Line. | 17. Trachea. |
| 8. Cornu Major. | 18. Bronchi. |
| 9. Cornu Minor. | 19. Annular Cartilages of 17. |
| 10. Middle Thyro-hyoid Ligament. | 20. Membranous Portion of Trachea. |

FIG. II. LARYNX AND TRACHEA, OPENED POSTERIORLY.

- | | |
|----------------------------------|-------------------------------------|
| 1. Greater Cornua of Hyoid Bone. | 9. Cuneiform Cartilages. |
| 2. Lesser Cornua. | 10. Lateral Thyro-hyoid Ligament. |
| 3. Thyroid Cartilage. | 11. Corpuscula Triticea. |
| 4. Greater Cornua. | 12. Lateral Crico-thyroid Ligament. |
| 5. Lesser Cornua. | 13. Crico-arytænoid Ligament. |
| 6. Posterior Surface. | 14. Epiglottis. |
| 7. Arytænoid Cartilages. | 15. Arytæno-epiglottidean Fold. |
| 8. Cornicula Laryngis. | 16. Mucous Membrane of Trachea. |

FIGS. III AND IV. THYROID CARTILAGE.

- | | |
|------------------------|---------------------|
| 1. Internal Surface. | 5. Superior Cornua. |
| 2, 3. Superior Margin. | 6. Lower Margin. |
| 4. Notch. | 8. Lesser Cornua. |

FIGS. V AND VI.

- | | |
|-----------------------------------|---------------------|
| 1, 2. Internal Surface of Thyroid | 5. Superior Cornua. |
| 3. Superior Margin. [Cartilage.] | 8. Lesser Cornua. |

- | | |
|---|---------------------------|
| 10. Posterior Surface of Cricoid Cartilage. | 16. Epiglottis. |
| 11. Upper Margin. | 18. Arytænoid Cartilages. |
| 12. Lower Margin. | 20. Posterior Surface. |
| | 23. Cornicula Laryngis. |

FIGS. VII AND VIII.

- | | |
|-------------------------------------|---|
| 2. Thyroid Cartilage. | 10. Posterior Surface of Cricoid Cartilage. |
| 3. Upper Margin. | 12. Inferior Margin. |
| 5. Superior Cornu. | 15. Lateral Crico-thyroid Cartilage. |
| 6. Inferior Margin. | 16. Epiglottis. |
| 8. Inferior Cornu. [tilage. | |
| 9. Anterior Surface of Cricoid Car- | |

FIGS. IX AND X.

- | | |
|--|-----------------------|
| 3. Superior Margin of Thyroid Cartilage. | 8. Inferior Cornu |
| 5. Superior Cornu | 9. Cricoid Cartilage. |
| | 16. Epiglottis. |

FIGS. XI AND XII. THYROID CARTILAGE, BACK VIEW.

- | | |
|----------------------|---------------------|
| 1. Internal Surface. | 5. Greater Cornua. |
| 3. Superior Margin. | 6. Inferior Margin. |
| 4. Incisura. | 8. Inferior Cornua. |

FIGS. XIII AND XIV. THYROID CARTILAGE, SIDE VIEW.

- | | |
|----------------------|------------------|
| 1. Anterior Surface. | 7. Tubercle. |
| 3. Upper Margin. | 8. Lesser Cornu. |
| 6. Lower Margin. | |

FIGS. XV AND XVI. CRICOID CARTILAGE.

- | | |
|------------------------|-------------------|
| 10. Posterior Surface. | 12. Lower Margin. |
| 11. Upper Margin. | |

FIGS. XVII AND XVIII. CRICOID CARTILAGE.

- | | |
|-----------------------|-----------------------------------|
| 10. Anterior Surface. | 12. Lower Border. |
| 11. Upper Border. | 13. Articular Facets for Thyroid. |

FIGS. XIX AND XX. SAME AS XVII AND XVIII.

12. Inferior Margin.

FIGS. XXI AND XXII. SAME AS XVII AND XVIII.

11. Superior Margin.

FIGS. XXIII AND XXIV. SAME AS XVII AND XVIII.

- | | |
|------------------------|-------------------------|
| 9. Anterior Surface. | 12. Inferior Border. |
| 10. Posterior Surface. | 13. } Articular Facets. |
| 11. Superior Border. | 14. } |

FIG. XXV. EPITHELIAL CELLS.

- | | |
|-------------|--------------|
| 1. Nucleus. | 3. Nucleoli. |
| 2. Villi. | |

FIG. XXVI AND XXVII. ARYTÆNOID CARTILAGES.

- | | |
|--------------------------|-------------------------|
| 18. Arytænoid Cartilage. | 22. Tubercle. |
| 19. Anterior Surface. | 23. Cornicula Laryngis. |

FIG. XXVIII. CUNEIFORM CARTILAGES.



EMBRYOLOGY.



EMBRYOLOGY.

PLATE I.

FIG. I. THE HUMAN EMBRYO HERE REPRESENTED IS ONE DESCRIBED BY BLUMENBACH, AND IS SUPPOSED TO BE ABOUT THREE WEEKS' OLD, (SOMEWHAT MAGNIFIED).

The germinal vesicle is laid open and the rudimentary embryo exposed. The vesicle is partly removed from, and partly adherent to, the foetal chorion, which shows very numerous filiform and imbranched villi. For the size of the ovum, the external surface of the chorion, is altogether constituted of proportionately very large and intricate villi. These are not spread over the whole chorion, but cover about one-half of its surface. Some of these filaments are connected together by means of small vesicles or nodules, very much resembling small hydatids. The villi themselves, supplied with numerous branchlets, seem to belong partly to the chorion, partly to the uterine mucous membrane. This diminutive embryo, which was hardened in alcohol, appeared as a solid and opaque mass, even before its hardening, and was attached to the internal surface of the ovule by a very short and slender thread. Examined under a microscope, it showed already the beginning of the formation of the head, which was altogether out of proportion to the size of the trunk, which formed a curve in such a manner that the lower part of the body reached the head. The upper and lower extremities appeared on the trunk, in the shape of very small tubercles. The coccygeal extremity was coiled up towards the trunk.

FIG. II. A HUMAN EMBRYO ABOUT FIVE WEEKS' OLD, DESCRIBED BY LEUCKHART.

The four visceral arches are formed, and the orbital process in front has already reached up to the fourth arch. The rudimentary upper extremities are larger than the lower. Between the lower extremities can be seen the embryonic caudal primitive vertebræ. The embryo still adheres to the internal surface of the ovule by an umbilical cord. The body of this embryo has already reached the size of its head. Neither eyes nor mouth were to be seen; only rudimentary spots in the places of existence of these organs could be discovered. The spinal vertebræ were distinctly visible, and the upper and lower extremities were somewhat

farther developed. The body, like the above figure, was bent upon itself, the coccygeal extremity nearly touching the head. The Vitteline vesicle was connected with the body by a slender peduncle, situated between the amnion and the chorion. The membranes, the innermost of which was opened, resembled those of the previous figure.

FIG. III. AN EMBRYO OF ABOUT SIX WEEKS' GROWTH.

The body of this embryo was well hardened in alcohol, and distinctly showed the upper and lower extremities. Here the body was larger than the head. The dorsal vertebræ were distinctly visible. The eyes were plainly to be seen, and the buccal opening very distinct. No rudimentary nose. The upper and lower extremities were somewhat larger than in the former. The thorax was broader than in the former two, it likely being a male embryo. The umbilical cord was larger and thicker.

FIG. IV. AN EMBRYO OF ABOUT SEVEN WEEKS, OBTAINED WITH ALL ITS MEMBRANES UNOPENED.

It shows an increase of its own size and that of the umbilical cord. The villi of the chorion were far more simple, as well as shorter, and not so numerous as in the former three. The embryo was still curved, yet not to the extent of the former specimens. The body was considerably larger than the head, and both eyes were distinguished as very dark spots. The oral slit was plainly marked, and slight depressions above it indicated the place of the nose. In the upper extremities, the arm and forearm could be plainly distinguished. The lower extremities were smaller and more rudimentary than the upper. The coccygeal tuberosity was very prominent. The umbilical cord longer, yet more slender.

FIG. V. AN EMBRYO OF ABOUT EIGHT WEEKS, CONTAINED IN A SAC; RATHER LARGER THAN USUAL.

It surpasses the former specimen both in size and development. The ovular membranes are increased in thickness; the flocculi of the deciduary membrane are similar to those described in Fig. 2. The curved embryonic body is semi-circular. The head is less increased in size than the trunk, the cranial portion being the most developed. The eyes are very distinct, the mouth open, and small foramina indicate the place for the nose. The ears are indicated by very small pores. The spinal column is broad and thick. The chest is tolerably broad. The abdomen protrudes around the navel, from which emerges a lengthy but slender cord. In the upper extremities the upper, forearm and hand are readily discernible. The fingers are not quite developed. In the lower extremities, which extend below the coccygeal tuberosity, the thighs, legs, and feet are also discernible. The toes are not at all developed. Between the umbilicus

and the coccygeal tuberosity two foramina are seen, which seem to indicate the female sex of the embryo.

FIG. VI. AN OVUM CONTAINING A HUMAN FŒTUS A LITTLE OVER FIVE MONTHS' OLD, WHICH WAS ACCIDENTALLY EXPELLED FROM THE UTERUS IN AN UNBROKEN STATE.

The fœtus is very readily seen through the pellucid membrane. The figure represents that part of the surface of the ovum which it occupied in the womb, that is, its left and anterior position. The flocculi of the chorion, which are not only more abundant, but longer, are seen in the left and upper portion, at the place occupied by the placenta, as very readily seen in the next figure. That portion of the membrane occupied by the placenta was so thick, that the embryonal portion of the placenta could not be examined through it. From the outer placentary edges to the middle of the ovum, the membranes became comparatively thinner than in an ovum of the second or third month.

FIG. VII. SAME AS FIG. VI.

The two outer membranes opened, exposing the internal or fœtal surface of the placenta, and leaving the fœtus still enclosed in the amnion. The placental vessels are seen as radiating from a common centre. The arteries are more slender, but more tortuous, than the veins, which are straight and of greater diameter. The arteries are far more divided up into branches than the veins. Here also the gradual thinning of the external membrane from the periphery of the placenta is readily noticed.

FIG. VIII. THE FŒTUS FREED FROM ITS SACS AND LEFT IN THE POSITION IT OCCUPIED IN THEM.

The umbilical cord slightly stretched and the placenta placed in such a position as to expose its entire internal surface. The fœtus is also drawn in such a manner on the plate as to correspond to Figs. 6 and 7. This fœtus is that of a female, as can be readily distinguished by its face. There are some few short hairs on its scalp; the forehead is wrinkled and the eyelids are distinct; its eyes and mouth firmly closed. Its external ear, though somewhat different from that of a mature fœtus, is sufficiently developed to show all its parts. The lower extremities by far exceed in size the upper. The umbilical cord is drawn here as not inserted into the middle of the placenta, but to one side.

FIG. IX. SAME AS FIG. V, ONLY A PORTION OF THE CHORION IS REMOVED, TO SHOW THE MIDDLE MEMBRANE. THE MIDDLE AND INTERNAL MEMBRANES ARE INTACT.

PLATE II.

FIGS. I, II, III, IV AND V. MAGNIFIED VIEWS OF FIGS. I, II, III AND IV OF PLATE I.

FIG. VI. SOMEWHAT MAGNIFIED EMBRYO CORRESPONDING TO FIG. V, PLATE I.

FIG. VII. FEMALE EMBRYO OF ABOUT NINE WEEKS (ENLARGED).

It shows an increased size beyond the former figures. The face shows plainly its different parts. The nose somewhat projects; the external ear showing the rudiments of the concha. The thorax is somewhat broader than in the former. The lower limbs project beyond the trunk; the upper limbs not only show the upper, forearm and hand, but its digits may be readily distinguished. The lower extremities show thigh, leg, foot, and toes. The coccygeal tuberosity still exists. The umbilical cord is longer and more slender.

FIG. VIII. A TEN WEEKS' OLD EMBRYO (ENLARGED).

The most of the parts of the face are plainly discernible. The eyes, nose, and external ear are far more developed. The chest is broader; the upper and lower limbs project far beyond the trunk. The coccygeal tuberosity has disappeared.

FIG. IX. AN ELEVEN WEEKS' OLD FEMALE EMBRYO.

All the characteristics of the sex are plainly visible on it. Its face shows each part distinctly. The eyelids are closed. The mouth also closed by its lips. The nostrils become somewhat prominent. The external ear very plain. The upper and lower extremities completely developed.

FIG. X. AN EMBRYO OF THREE MONTHS.

On the head, the frontal, parietal, and temporal bones are plainly discernible, the eyeballs protrude beyond the level of the face and are closed in by both lids. The nose completely formed; both lips distinct; nearly every part of the external ear formed. The neck is plainly separated from the head and scapula. Its large chest plainly indicates it to be a male. The single ribs are plainly distinguishable. The coccygeal tuberosity completely disappeared. The penis is prominent, the scrotum small and empty. The form of both scapulae are distinctly visible. In the upper arm the deltoid and biceps muscle are prominent. The anconeus and external condyles of the humerus are plainly visible. In the hand, both carpus and metacarpus, as well as the digital articulations, are well marked. In the inferior part of the trunk—the ossa innominata—

on the femur, the trochanter major and the condyles, also the gluteus maximus, the vasti, and the ham string muscles are plainly discernible. In the legs the patella, the tibia, and the malleoli, and in the feet all the parts are fully developed.

FIG. XI. FEMALE EMBRYO OF THREE AND ONE-HALF MONTHS.

The forehead is prominent; eyes, nose, mouth, and ears have distinctly increased in size. The chest is that of a female. The clitoris is surrounded by the preputial fold; the vaginal orifice is separate from the anal.

FIG. XII. MALE FÆTUS OF THREE AND A HALF MONTHS.

FIG. XIII. FEMALE FÆTUS OF FOUR MONTHS.

FIG. XIV. MALE FÆTUS OF FOUR MONTHS.

FIG. XV. MALE FÆTUS OF FOUR MONTHS (HIGHLY DEVELOPED).

The body is fully developed, being a fine specimen of the male fœtus of that age. The muscular development, the breadth of its thorax distinctly show its male character.

FIG. XVI. A FEMALE FÆTUS OF FOUR MONTHS.

The round form of the head is very regular; forehead broad and round; eyes large, the eyelids well formed; nose well shapen; mouth half open; lips delicate; chin slender; ears rather larger than in the previous figures. The neck corresponds with the well-formed head. The thorax shows it to be a female fœtus. The shoulders are prominent, arm well rounded, hand and fingers slender. The lower extremities by far surpass the upper. The thighs are more curved than in a male fœtus of a corresponding age.



